Seaway

HANDBOOK

THE SEAWAY HANDBOOK

Issued by

THE ST. LAWRENCE SEAWAY AUTHORITY
and
SAINT LAWRENCE SEAWAY DEVELOPMENT CORPORATION

1986 CONSOLIDATION

THIS PUBLICATION, ALSO AVAILABLE IN FRENCH,
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FOREWORD

This Seaway Handbook replaces all previous issues of the St. Lawrence Seaway Master's Handbook and of the Seaway Handbook. It contains the *Seaway Regulations* and certain other information pertinent to the use of the Seaway.

Subject to these Regulations, the *Canada Shipping Act* and Regulations made thereunder as well as the marine, navigation and shipping laws and regulations of the United States of America shall apply as appropriate to every vessel in the Seaway.

The revised Seaway Regulations are joint Regulations applicable to both Canadian and American portions of the Seaway. They were established by the St. Lawrence Seaway Authority pursuant to the *St. Lawrence Seaway Authority Act* and approved by pertinent Orders in Council, the latest being P.C. 1985-866. Insofar as they are applicable in the United States they were established by the Saint Lawrence Seaway Development Corporation pursuant to the Act of May 13, 1954, as amended, 33 U.S.C. 981-990, and sections 4, 5, 6, 7, 8, 12 and 13 of SEC. 2 of Public Law 95-474 dated October 17, 1978.

Subsection 20(2) of the *St. Lawrence Seaway Authority Act* makes the violation of a Seaway Regulation an offence punishable on summary conviction by a fine not exceeding one thousand dollars. The penalties for violations of Seaway Regulations occurring in waters under the jurisdiction of the Saint Lawrence Seaway Development Corporation are found in the U.S. Public Law 95-474, 92 Stat. 1471 and more specifically in Subpart B of Part 401 of the U.S. Code of Federal Regulations. In accordance with this U.S. law, any person, owner, charterer or master who fails or refuses to obey any of the Regulations shall be liable to a civil penalty of not more than twenty-five thousand dollars. Additionally, any such person who willfully violates a Regulation shall be fined not more than fifty thousand dollars for each violation or imprisoned for not more than five years, or both. Finally, a vessel by means of which the violation of a Regulation is committed shall be liable *in rem* and may be proceeded against accordingly.

The *St. Lawrence Seaway Tariff of Tolls* was initially approved on March 9, 1959 by the Governments of Canada and the United States. This tariff remained unchanged until a revision was accepted by the two Governments on March 20, 1978. The revised tariff provided for increases in tolls to be phased-in over a three-year period beginning with the opening of the 1978 navigation season. The agreement also included an adjustment of the division of Canadian and United States dollars required for payment of tolls on the Montreal-Lake Ontario section. The tariff was further revised to provide for increases in tolls during the 1982 and 1983 navigation periods. The tariff was again revised in 1984 to allow the gradual implementation of late season operational surcharges. Further changes were made in 1985 to modify the administrative procedures relating to the payment of tolls, to adjust the division of Canadian and United States dollars required for payment of tolls on the Montreal-Lake Ontario section, and to alter the definition of "feed grain". The tariff was revised at the beginning of the 1986 navigation season to allow increases of tolls and lockage fees on the Welland Canal.

The *St. Lawrence Seaway Wharfage and Storage Charges Tariff* was established by the St. Lawrence Seaway Authority pursuant to the *St. Lawrence Seaway Authority Act* and filed with the Canadian Transport Commission on the sixteenth day of January, 1974. Subsequent amendments were filed on August 20, 1975, September 26, 1979 March 5, 1980, February 7, 1984, March 1, 1985 and March 27, 1986.

JOINT REGULATIONS RESPECTING THE TRANSIT OF VESSELS ON THE ST. LAWRENCE SEAWAY

(U.S. Rules 401.1 to 401.97)

Short Title

1. These Regulations may be cited as the *Seaway Regulations*.

Interpretation

2. In these Regulations,

"Authority" means the St. Lawrence Seaway Authority; (Administration)

"Corporation" means the Saint Lawrence Seaway Development Corporation; (Corporation)

"flashpoint" means the temperature as determined by the closed-cup method; (point de fusion)

"navigation season" means the annual period designated by the Authority and the Corporation, that is appropriate to weather and ice conditions or vessel traffic demands, during which the Seaway is open for navigation; (saison de navigation)

"officer" means a person employed by the Authority or the Corporation to direct some phase of the operation or use of the Seaway; (fonctionnaire)

"passing through" means in transit through a lock or through the waters enclosed by the approach walls at either end of a lock chamber; (éclusage)

"pleasure craft" means a vessel, however propelled, that is used exclusively for pleasure and that does not carry passengers who have paid a fare for passage; (embarcation de plaisance)

"preclearance" means the authorization given by the Authority or the Corporation for a vessel to transit; (congé préalable)

"representative" means the owner or charterer of a vessel or an agent of either of them and includes any person who, in an application for preclearance of a vessel, accepts responsibility for payment of the tolls and charges to be assessed against the vessel in respect of transit and wharfage; (représentant)

"Seaway" means the deep waterway between the Port of Montreal and Lake Erie and includes all locks, canals and connecting and contiguous waters that are part of the deep waterway, and all other canals and works, wherever located, the management, administration and control of which have been entrusted to the Authority or the Corporation; (voie maritime)

"Seaway station" means a radio station operated by the Authority or the Corporation; (station de la voie maritime)

"tanker" means any vessel specifically constructed for carrying bulk cargoes of liquid petroleum products, liquid chemicals, liquid edible oils and liquified gases in tanks which form both an integral part and the total cargo carrying portion of that vessel; (pétrolier)

"towed" means pushed or pulled through the water; (remorqué)

"transit" means to use the Seaway, or a part of it, either upbound or downbound: (transiter)

"vessel" means any type of craft used as a means of transportation on water; (navire)

"vessel traffic controller" means the officer who controls vessel traffic from a Seaway station (contrôleur du trafic maritime)

PART I

CONDITION OF VESSELS

Maximum Vessel Dimensions

3. (1) No vessel of more than 222.5 m in overall length or 23.16 m in extreme breadth shall transit.

(2) No vessel shall transit if any part of the vessel or anything on the vessel extends more than 35.5 m above water level.

(3) No vessel shall transit if any part of its bridges or anything on the vessel protrudes beyond the hull.

(4) No vessel's hull or superstructure when alongside a lock wall shall extend beyond the limits of the lock wall, as illustrated in Appendix I.

(4.1) A vessel having a beam width of less than 23.16 m and having dimensions exceeding the limits set out in the block diagram illustrated in Appendix I shall not transit a lock except in accordance with a permit to transit issued by the Authority or the Corporation.

Minimum Length and Weight

4. No vessel of less than 6 m in overall length or 900 kg in weight shall transit.

Required Equipment

5. No vessel shall transit unless it is

(a) propelled by motor power that is adequate in the opinion of an officer; and

(b) marked and equipped in accordance with the requirements of sections 6 to 21.

Markings

6. (1) Vessels of more than 19.8 m in overall length shall be correctly and distinctly marked and equipped with draught markings on both sides at the bow and stern.

(2) In addition to the markings required by subsection (1), vessels of more than 107 m in overall length shall be marked on both sides with midship draught markings.

(3) Where a vessel's bulbous bow extends forward beyond her stem head, a symbol of a bulbous bow shall be marked above the 79.2 dm mark in addition to a + symbol followed by a number indicating the total length in metres by which the bulbous bow projects beyond the stem.

Fenders

7. (1) Where any structural part of a vessel protrudes so as to endanger Seaway installations, the vessel shall be equipped with fenders

(a) permanently attached to the vessel; or

(b) where the fenders are not permanently attached,

(i) made of a material that will float, and

(ii) securely fastened and suspended from the vessel in a horizontal position by means of a steel cable or a fibre rope in such a way that they may be raised or lowered so as to avoid damage to Seaway installations.

(2) Automobile or other tires shall not be used as fenders.

Landing Booms

8. Vessels of more than 50 m in overall length shall be equipped with at least one adequate landing boom on each side.

Radio Telephone Equipment

9. (1) Self-propelled vessels, other than pleasure craft of less than 19.8 m in overall length, shall be equipped with VHF (very high frequency) radio telephone equipment.

(2) The radio transmitters on a vessel shall

(a) have sufficient power output to enable the vessel to communicate with Seaway stations from a distance of 48 km; and

(b) be fitted to operate from the conning position in the wheelhouse and to communicate on 156.55, 156.6, 156.65, 156.7 and 156.8 MHz.

Mooring Lines

10. (1) Mooring lines shall

(a) be of a uniform thickness throughout their length;

(b) be fitted with a spliced eye not less than 2.4 m long;

(c) have sufficient strength to check the vessel; and

(d) be arranged so that they may be led to either side of the vessel as required.

(2) Unless otherwise permitted by an officer, only wire rope mooring lines shall be used for securing a vessel in lock chambers.

(3) Synthetic lines may be used for mooring at approach walls, tie-up walls and docks within the Seaway if they have a breaking strength that complies with the minimum specifications set out in the table in this section.

TABLE

Overall Length of Vessels	Length of Mooring Line	Breaking Strength
40 m or more but not more than 60 m	110 m	89 kN
more than 60 m but not more than 90 m	110 m	134 kN
more than 90 m but not more than 120 m	110 m	178 kN
more than 120 m but not more than 180 m	110 m	250 kN
more than 180 m but not more than 222.5 m	110 m	300 kN

Fairleads

11. Mooring lines, and synthetic hawsers where permitted under subsection 10(2) or 10(3), shall

(a) be led at the vessel's side through a type of fairlead acceptable to the Authority and the Corporation;

(b) pass through not more than two inboard fairleads that are fixed in place and provided with free-running sheaves or rollers; and

(c) where the fairleads are mounted flush with the hull, be permanently fendered to prevent the lines from being pinched between the vessel and a wall.

Minimum Requirements — Mooring Lines and Fairleads

12. (1) Minimum requirements in respect of mooring lines and winches and the location of fairleads on vessels are as follows:

(a) vessels of 40 m or less in overall length shall have at least two mooring lines or hawsers that may be led through closed chocks and be hand held, one of which shall lead from the break of the bow and the other shall lead from the quarter;

(b) vessels of more than 40 m but not more than 60 m in overall length shall have four mooring lines, two of which shall be power operated by winches, capstans or windlasses and shall be led through a type of fairlead acceptable to the Authority and the Corporation, of which two mooring lines

(i) one shall lead forward from the break of the bow and one astern from the quarter, or

(ii) one shall lead astern from the break of the bow and one forward from the quarter;

(c) the other two mooring lines required on vessels of more than 40 m but not more than 60 m may be led through closed chocks and may be hand held;

(d) vessels of more than 60 m in overall length shall have four mooring lines, two of which shall lead from the break of the bow and two of which shall lead from the quarter, and

(i) all shall be power operated by the main drums of adequate power operated winches and not by capstans or windlasses; and

(ii) all shall be led through a type of fairlead acceptable to the Authority and the Corporation.

(e) every vessel shall have a minimum of two spare mooring lines available and ready for immediate use.

(2) The following table sets out the requirements for the location of fairleads for vessels of 60 m or more in overall length:

TABLE

Overall Length of Vessels	For Mooring Lines Nos. 1 and 2	For Mooring Lines Nos. 3 and 4
60 m or more but not more than 90 m	Between 10 m & 25 m from the stem	Between 10 m & 25 m from the stern
more than 90 m but not more than 120 m	Between 12 m & 30 m from the stem	Between 15 m & 35 m from the stern
more than 120 m but not more than 150 m	Between 12 m & 35 m from the stem	Between 15 m & 40 m from the stern
more than 150 m but not more than 180 m	Between 15 m & 40 m from the stem	Between 20 m & 45 m from the stern
more than 180 m but not more than 222.5 m	Between 20 m & 50 m from the stem	Between 20 m & 50 m from the stern

Hand Lines

13. Hand lines shall

(a) be made of manila or other material acceptable to the Authority and the Corporation, and

(b) have a diameter between 12 mm and 20 mm and a minimum length of 30 m.

Anchor Marking Buoys

14. An orange coloured anchor marking buoy of a type approved by the Authority and the Corporation, fitted with 22 m of suitable line, shall be secured directly to each anchor so that the buoy will mark the location of the anchor when the anchor is dropped.

Stern Anchors

15. Every vessel of more than 110 m in overall length, the keel of which is laid after January 1, 1975, shall be equipped with a stern anchor.

Propellor Direction Alarms

16. Every vessel of 1600 gross registered tons or more shall be equipped with

(a) propellor direction and shaft r.p.m. indicators located in the wheelhouse and the engine room; and

(b) visible and audible wrong-way propellor direction alarms located in the wheelhouse and the engine room, unless the vessel is fitted with a device which renders it impossible to operate engines against orders from the bridge telegraph.

Pitch Indicators and Alarms

17. Every vessel of 1,600 gross registered tons or more equipped with a variable pitch propeller shall be equipped with

(a) a pitch indicator in the wheelhouse and the engine room; and

(b) effective April 1, 1984, visible and audible pitch alarms in the wheelhouse and engine room to indicate wrong pitch.

Steering Lights

18. Every vessel shall be equipped with

(a) a steering light located on the centreline at or near the stem of the vessel and clearly visible from the helm; or

(b) two steering lights located at equal distances either side of the centreline at the forepart of the vessel and clearly visible from the bridge along a line parallel to the keel.

Disposal and Discharge Systems

19. (1) Every vessel not equipped with containers for ordure shall be equipped with a sewage disposal system enabling compliance with applicable laws relative to sewage disposal.

(2) Garbage on a vessel shall be

(a) destroyed by means of an incinerator or other garbage disposal device; or

(b) retained on board in covered, leakproof containers, until such time as it can lawfully be disposed of.

(3) No substance shall be discharged or disposed of onto a lock wall or tie-up wall by any means, including overboard discharge pipes.

20. (Revoked)

Requirements for U.S. Waters of the St. Lawrence Seaway

21. In addition to the requirements set forth elsewhere in these Regulations, vessels transiting the U.S. waters of the St. Lawrence Seaway are subject to the requirements set out in Schedule I.

PART II

PRECLEARANCE AND SECURITY FOR TOLLS

Preclearance of Vessels

22. (1) No vessel, other than a pleasure craft of 317.5 tonnes or less in weight, shall transit until an application for preclearance has been made, pursuant to section 24, to the Authority or the Corporation by the vessel's representative and the application has been approved by the Authority or the Corporation pursuant to section 25.

(2) No vessel shall transit while its preclearance is suspended or has terminated by reason of

(a) the expiration of the representative's guarantee of toll payment,

(b) a change of ownership or representative of the vessel, or

(c) a material alteration in the physical characteristics of the vessel,

until another application for preclearance has been made and approved.

Liability Insurance

23. (1) It is a condition of approval of an application for preclearance that the vessel is covered by liability insurance equal to or exceeding $100 per gross registered ton.

(2) No vessel shall transit while its liability insurance is not in full force and effect.

Application for Preclearance

24. The representative of a vessel may, on a form obtained from the Authority, Cornwall, Ontario, or the Corporation, Massena, New York, apply for preclearance, giving particulars of the ownership, liability insurance and physical characteristics of the vessel and guaranteeing payment of the tolls and charges that may be incurred by the vessel.

Approval of Preclearance

25. Where the Authority or the Corporation approves an application for preclearance, it shall

(a) give the approval in writing; and

(b) assign a number to the approval.

Security for Tolls

26. (1) Before transit by a vessel to which the requirement of preclearance applies, security for the payment of tolls in accordance with the *St. Lawrence Seaway Tariff of Tolls* as well as security for any other charges, shall be provided by the representative by means of

(a) a deposit of money with the Authority or the Corporation;

(b) a deposit of money to the credit of the Authority or the Corporation with a chartered bank in Canada or a bank in the United States;

(c) a deposit with the Authority or the Corporation of negotiable bonds of the Government of Canada or of the Government of the United States; or

(d) furnishing to the Authority or the Corporation a letter of guarantee given by a bank referred to in paragraph (b).

(2) The security for the tolls of a vessel shall be sufficient to cover the gross registered tonnage of the vessel

(a) on the Seaway between Montreal and Lake Ontario, at $1.75 per ton for transit each way or at $3.50 per ton for a round trip,

(b) on the Welland Canal, at $1.40 per ton for transit each way or at $2.75 per ton for a round trip,

and shall be maintained in an amount sufficient to cover each transit for which tolls have been incurred and are unpaid.

(3) Where a number of vessels

(a) are owned or controlled by the same individual or company, and

(b) have the same representative,

the security for the tolls may be provided in an amount estimated by the representative to be equal to $2.55 per ton for the aggregate maximum tonnage of the vessels within the Seaway at any one time and shall be maintained in an amount sufficient to cover each transit for which tolls have been incurred and are unpaid.

(4) Where, in the opinion of the Authority or the Corporation, the security provided by the representative is insufficient to secure the tolls and charges incurred or likely to be incurred by a vessel, the Authority or the Corporation may suspend the preclearance of the vessel.

PART III

SEAWAY NAVIGATION

Compliance with Instructions

27. Every vessel shall comply promptly with transit instructions given by the vessel traffic controller or any other officer.

Speed Limits

28. (1) The maximum speed over the bottom for a vessel of more than 12 m in overall length shall be regulated so as not to adversely affect other vessels or shore property, and in no event shall such a vessel proceeding in an area between the place set out in column I of an item of Schedule II and the place set out in Column II of that item exceed the speed set out in column III or column IV of that item, whichever is designated by the Authority and the Corporation from time to time as being appropriate to existing water levels.

(2) Every vessel under way shall proceed at a reasonable speed so as not to cause undue delay to other vessels.

(3) Every vessel passing a moored vessel or equipment working in a canal shall proceed at a speed that will not endanger the moored vessel, the moored equipment or the occupants of either.

Maximum Draught

29. (1) The loading, draught and speed of a vessel in transit shall be controlled by the master, who shall take into account the vessel's individual characteristics and its tendency to list or squat, so as to avoid striking bottom.*

(2) The draught of a vessel shall not, in any case, exceed 79.2 dm or the maximum permissible draught designated by the Authority or the Corporation for the part of the Seaway in which a vessel is passing.

Adequate Ballast and Proper Trim

30. (1) Every vessel shall be adequately ballasted.

(2) Every vessel shall be properly trimmed.

(3) Any vessel that is not adequately ballasted or properly trimmed in the opinion of an officer, may be refused transit or may be delayed.

Meeting and Passing

31. (1) The meeting and passing of vessels shall be governed by the *Rules of the Road for the Great Lakes*.

*The main channels between the Port of Montreal and Lake Erie have a controlling depth of 8.23 m.

(2) No vessel shall meet another vessel within the caution signs at bridges or within any area that is designated as a "no meeting area" by signs erected by the Authority or the Corporation at that area.

(3) Except as instructed by the vessel traffic controller, no vessel shall overtake and pass or attempt to overtake and pass another vessel

(a) in any canal;

(b) within 600 m of a canal or lock entrance; or

(c) after the order of passing through has been established by the vessel traffic controller.

Cargo Booms — Deck Cargo

32. (1) Every vessel shall have cargo booms secured in a manner that affords maximum visibility from the wheelhouse.

(2) Cargo or containers carried, forward or aft, on deck shall be stowed in a manner that

(a) affords an unrestricted view from the wheelhouse for the purpose of navigation; and

(b) does not interfere with mooring equipment.

Special Instructions

33. Special instructions shall be applied for from the Authority or the Corporation in connection with the intended transit of vessels of unusual design, hulks, sections of vessels, large dredges, and all vessels in tow and vessels whose limits exceed the requirements of subsection 3 (4), and such vessels shall not transit except in compliance with such instructions.

Vessels in Tow

34. No vessel that is not self-propelled shall be underway in any canal unless it is securely tied to an adequate tug or tugs, in accordance with special instructions given by the Authority or the Corporation pursuant to section 33.

Navigation Underway

35. Every vessel transiting between calling in point 2 and Tibbetts Point and between calling in points (C.I.P.) 15 and 16 shall

(a) man the propulsion machinery of the vessel, including the main enging control station; and

(b) operate the propulsion machinery so that it can respond immediately through its full operating range.

Order of Passing Through

36. Vessels shall advance to a lock in the order instructed by the vessel traffic controller.

Mooring at Tie-Up Walls

37. (1) Upon arrival at a lock, a vessel awaiting instructions to advance shall moor at the tie-up wall, close up to the designated limit of approach sign or to the vessel preceding it, whichever is specified by an officer.

(2) Crew members being put ashore on landing booms and handling mooring lines on tie-up walls shall wear life jackets.

Limit of Approach to a Lock

38. A vessel approaching a lock or the guard gate cut shall comply with directions indicated by the signal light system associated with the lock or guard gate cut and in no case shall its stem pass the designated limit of approach sign while a red light or no light is displayed.

Preparing Mooring Lines for Passing Through

39. Before a vessel enters a lock,

(a) unless winches can pay out at a minimum speed of 46 m per minute, sufficient lengths of mooring lines to reach the mooring posts on the lock walls shall be drawn off the winch drums and laid out on the deck; and

(b) the eye of each mooring line shall be passed outward through the fairleads at the side.

Raising Fenders

39.1 Every vessel equipped with fenders that are not permanently attached shall raise its fenders when passing a lock gate in Snell or Eisenhower Locks.

Entering a Lock

40. (1) No vessel shall proceed into a lock in such a manner that the stem passes the stop symbol on the lock wall nearest the closed gates.

(2) Every vessel proceeding into a lock shall be positioned and moored as directed by the officer in charge of the lock.

(3) No vessel shall use thrusters when passing a lock gate.

Tandem Lockage

41. Where two or more vessels are being locked together, vessels astern of the leading vessel shall

(a) come to a full stop a sufficient distance from the preceding vessel to avoid a collision; and

(b) be moved into mooring position as directed by the officer in charge of the lock.

Passing Hand Lines

42. (1) At locks, hand lines shall be secured to the mooring lines and passed as follows:

(a) a downbound vessel shall use its own hand lines, secured to the eye at the end of the mooring lines by means of a bowline, which hand lines shall be passed to the linesmen at the lock as soon as the vessel passes the open gates;

(b) hand lines shall be passed to upbound vessels by the linesmen as soon as the vessel passes the open gates, and secured, by means of a clove hitch, to the mooring lines 60 cm behind the splice of the eye; and

(c) at Iroquois Lock and Lock 8, Welland Canal, both upbound and downbound vessels shall use their own hand lines as provided in paragraph (a)

(2) Knotted or weighted hand lines shall not be used in the chamber of a lock.

(3) Mooring lines shall not be passed over the side of a vessel in a manner dangerous to a lock crew.

Mooring Table

43. Unless otherwise directed by an officer, vessels passing through locks in the South Shore, Beauharnois, Wiley-Dondero, Iroquois and Welland Canals shall moor at the side of the tie-up wall or lock as shown in the table to this section.

TABLE

S = Starboard
P = Port

Upb = Upbound
Dnb = Downbound

Montreal to Iroquois

	South Shore		Beauharnois			Wiley-Dondero		Iro-quois
	St. Lambert	Cote Ste. Catherine	Lower	Pool	Upper	Snell	Eisen-hower	
Locks								
Upb	P	P	S		S	S	S	P
Dnb	S	S	P		P	P	P	S
Tie-up Walls								
Upb	S	S	P	P		S	S	S
Dnb	P	P		S	S	P	P	P

Welland Canal

Locks	1	2	3	4	5	6	7	Guard Gate Cut	8
Upb	S	P	P	P	P	P	P		S
Dnb	P	S	S	P	P	P	S		P
Tie-up Walls									
Upb	S	S	S	S			S	S	PorS
Dnb	P	P	P			S	S	P	PorS

Mooring in Locks

44. (1) Mooring lines shall only be placed on mooring posts as directed by the officer in charge of the mooring operation.

(2) No winch from which a mooring line runs shall be operated until the officer in charge of a mooring operation has signalled that the line has been placed on a mooring post.

Emergency Procedure

45. When the speed of a vessel entering a lock chamber has to be checked in an emergency, a signal consisting of five blasts on a horn shall be given,

(a) in Canadian locks, by the master, and

(b) in Snell and Eisenhower locks, by the master or the officer in charge of the mooring operation,

and all mooring lines shall be put out as quickly as possible.

Attending Lines

46. (1) Lines of a vessel shall be under visual control and attended by members of its crew during the time the vessel is passing through a lock.

(2) While a vessel is within a lock chamber and lines are hand held for tension control, each line shall be attended by at least one member of the vessel's crew.

Leaving a Lock

47. (1) Mooring lines shall only be cast off as directed by the officer in charge of a mooring operation.

(2) No vessel shall proceed out of a lock until the exit gates, ship arresters and the bridge, if any, are in a fully open position.

(3) No vessel shall use thrusters when passing a lock gate.

Turning Basins

48. No vessel shall be turned about in any canal, except

(a) with permission from the vessel traffic controller; and

(b) at the locations set out in the table to this section.

TABLE

1.	South Shore Canal:	
	(a) Turning Basin No. 1	— Opposite Brossard
	(b) Turning Basin No. 2	— Immediately below Côte Ste. Catherine Lock
2.	Welland Canal:	
	(a) Turning Basin No. 1	— Opposite St. Catharines Wharf for vessels up to 107 m in overall length
	(b) Turning Basin No. 2	— Between Lock 7 and the Guard Gate Cut for vessels up to 180 m in overall length

(c) Turning Basin No. 3 — Immediately south of Port Robinson (mile 13)

(d) Turning Basin No. 4 — North of Lock No. 8 for vessels up to 170 m in overall length

(e) For vessels up to 80 m in overall length

(i) North end of Wharf No. 1,

(ii) Tie-up wall above Lock 1,

(iii) Tie-up wall below Lock 2,

(iv) Wharf No. 9,

(v) Between the southerly extremities of Wharves 18-2 and 18-3

Dropping Anchor or Tying to Canal Bank

49. Except in an emergency, no vessel shall drop anchor in any canal or tie-up to any canal bank unless authorized to do so by the vessel traffic controller.

Anchorage Areas

50. Except in an emergency, or unless authorized to do so by the vessel traffic controller, no vessel shall drop anchor in any part of the Seaway except in the following designated anchorage areas:

(a) Point Fortier (Lake St. Louis)

(b) Melocheville (Beauharnois Canal)

(c) St. Zotique, Dickerson Island and Stonehouse Point (Lake St. Francis)

(d) Wilson Hill Island and Morrisburg (Lake St. Lawrence)

(e) Prescott and Union Park (St. Lawrence River)

(f) Off Port Weller (Lake Ontario)

(g) Off Port Colborne (Lake Erie)

Signalling Approach to a Bridge

51. (1) Unless a vessel's approach has been recognized by a flashing signal, the master shall signal the vessel's presence to the bridgemaster by VHF radio when it comes abreast of any of the bridge whistle signs.

(2) The signs referred to in subsection (1) shall be placed at distances varying between 550 m and 2990 m upstream and downstream from moveable bridges at sites other than lock sites.

Limit of Approach to a Bridge

52. (1) No vessel shall pass the limit of approach sign at any moveable bridge until the bridge is in a fully open position and the signal light shows green.

(2) No vessel shall pass the limit of approach sign at the twin Railway Bridges on the South Shore Canal at Caughnawaga or at Bridges 20 and 21 on the Welland Canal, until both bridges are in a fully open position and both signal lights show green.

Obstructing Navigation

53. No vessel shall be operated, drop anchor or be fastened or moored in a manner that obstructs or hinders navigation.

Interference with Navigation Aids

54. (1) Aids to navigation shall not be interfered with or moored to.

(2) No person shall, unless authorized by the Authority or the Corporation, set out buoys or navigation markers on the Seaway.

Searchlights

55. No searchlight shall be used in such a manner that its rays interfere with the operators at a Seaway structure or on any vessel.

Damaging or Defacing Seaway Property

56. The master of every vessel shall

(a) navigate so as to avoid damage to Seaway property; and

(b) prevent defacement of Seaway property by any member of the vessel's crew.

Disembarking or Boarding

57. (1) Except as authorized by an officer, no person, other than a member of the crew of a vessel passing through, shall disembark or board any vessel while the vessel is passing through.

(2) No member of the crew of a vessel passing through shall disembark or board except for the purpose of carrying out essential duties as directed by the Master.

Pleasure Craft Scheduling

58. The transit of pleasure craft shall be scheduled by the vessel traffic controller or the officer in charge of a lock and may be delayed so as to avoid interference with other vessels.

Pollution

59. (1) No vessel shall

(a) emit sparks or excessive smoke; or

(b) blow boiler tubes.

(2) No vessel shall discharge into Seaway waters any substance not in conformity with applicable United States Federal Regulations and Canadian Regulations with the exception of the waters of the Welland Canal where two specific zones are established in which no substance shall be discharged, namely,

(a) from lock 7 (Thorold) to mile 17 (Welland); and

(b) from lock 8 (Port Colborne) to the outer Port Colborne Piers (Lake Erie).

(3) A record shall be kept of each location within the Seaway or adjacent waters where bilge water has been discharged.

(4) Except as authorized by the Authority or the Corporation, no vessel shall discharge garbage, ashes, ordure, litter or other materials.

PART IV

RADIO COMMUNICATIONS

Listening Watch and Notice of Arrival

60. (1) Vessels shall be on radio listening watch on the applicable assigned frequency while within a Seaway traffic control sector as shown on the General Seaway Plan and shall give notice of arrival in the manner prescribed in section 64 upon reaching any designated calling in point.

(2) Notice of arrival shall be deemed to have been given when it is acknowledged by a Seaway station.

Assigned Frequencies

61. The Seaway stations operate on the following assigned VHF frequencies:

156.8 MHz (channel 16)	Distress and Calling
156.7 MHz (channel 14)	Working (Canadian Stations other than Lakes Ontario and Erie)
156.65 MHz (channel 13)	Working (U.S. Stations, Lake Ontario and Sector 4 of the River)
156.6 MHz (channel 12)	Working (U.S. Stations other than Lake Ontario and Sector 4 of the River)
156.55 MHz (channel 11)	Working (Canadian Stations, Sector 3, Lake Ontario and Lake Erie)

Seaway Stations

62. The Seaway stations are located as follows:

VDX20 (Seaway Beauharnois)	Upper Beauharnois Lock	Traffic Control Sector No. 1
KEF (Seaway Eisenhower)	Eisenhower Lock	Traffic Control Sector No. 2
VDX21 (Seaway Iroquois)	Iroquois Lock	Traffic Control Sector No. 3
WAG (Seaway Clayton)	Clayton, N.Y.	Traffic Control Sector No. 4
WAG (Seaway Sodus)	Sodus, N.Y.	Traffic Control Sector No. 4
VDX72 (Seaway Newcastle)	Port Hope, Ontario	Traffic Control Sector No. 5
VDX70 (Seaway Newcastle)	Port Weller, Ontario	Traffic Control No. 5
VDX22 (Seaway Welland)	St. Catharines, Ontario	Traffic Control Sector No. 6
VDX68 (Seaway Long Point)	Port Colborne, Ontario	Traffic Control Sector No. 7

Radio Procedure

63. Every vessel shall use the channels of communication in each control sector as listed in the table to this section.

TABLE

Station	Control Sector Number	Sector Limits	Call In	Work	Listening Watch
Seaway Beauharnois	1	C.I.P. No. 2 to C.I.P. No. 6-7	Ch. 14	Ch. 14	Ch. 14
Seaway Eisenhower	2	C.I.P. No. 6-7 to C.I.P. No. 10-11	Ch. 12	Ch. 12	Ch. 12
Seaway Iroquois	3	C.I.P. No. 10-11 to Crossover Island	Ch. 11	Ch. 11	Ch. 11
Seaway Clayton	4	Crossover Island to Cape Vincent	Ch. 13	Ch. 13	Ch. 13
Seaway Sodus	4	Cape Vincent to Mid Lake Ontario	Ch. 13	Ch. 13	Ch. 16
Seaway Newcastle	5	Mid Lake Ontario to C.I.P. No. 15	Ch. 11	Ch. 11	Ch. 16
Seaway Welland	6	C.I.P. No. 15 to C.I.P. No. 16	Ch. 14	Ch. 14	Ch. 14
Seaway Long Point	7	C.I.P. No. 16 to Long Point	Ch. 11	Ch. 11	Ch. 16

Calling In

64. (1) Every vessel, intending to transit or in transit, shall report on the assigned frequency to the designated Seaway station when opposite any calling in point or checkpoint (indicated on the General Seaway Plan) and, when reporting, shall give the information indicated in Schedule III.

(2) Changes in information provided under subsection (1), including up-dated ETAs that vary from the ETAs provided under the subsection by 30 minutes or more, shall be reported to the appropriate Seaway station.

(3) A downbound vessel in St. Lambert Lock shall switch to channel 10 (156.5 MHz) for a traffic report from Montreal Vessel Traffic Management Centre.

(4) After obtaining the situation report referred to in subsection (3), the downbound vessel shall return to guarding channel 14 (156.7 MHz) and remain on that channel until it is clear of St. Lambert Lock chamber.

(5) When the downbound vessel has cleared the downstream end of the lower approach wall of St. Lambert Lock, the master or pilot of the vessel shall call "Seaway Beauharnois" and request permission to switch to channel 10 (156.5 MHz).

(6) Seaway Beauharnois shall grant the permission requested pursuant to subsection (5) and advise the downbound vessel of any upbound traffic that may be cleared for Seaway entry but not yet at C.I.P. 2.

(7) In the event of an expected meeting of vessels between the downstream end of the lower approach wall and C.I.P. 2, the downbound vessel shall remain on channel 14 (156.7 MHz) until the meeting has been completed.

(8) After the meeting, the downbound vessel shall call "Seaway Beauharnois" before switching to channel 10 (156.5 MHz).

Communication — Ports, Docks and Anchorages

65. (1) Every vessel entering or leaving a lake port shall report to the appropriate Seaway station at the following check points:

(a) Toronto and Hamilton
0.87 of a nautical mile outside of harbour limits; and

(b) other lake ports
when crossing the harbour entrance.

(2) Every vessel arriving at a port, dock or anchorage shall report to the appropriate Seaway station, giving an estimated time of departure if possible, and, at least four hours prior to departure, every vessel departing from a port, dock or anchorage shall report in the same way giving its destination and the expected time of arrival at the next check point.

PART V

DANGEROUS CARGO

Applicable Laws

66. Vessels carrying a cargo or part cargo of fuel oil, gasoline, crude oil or other flammable goods in bulk, including empty tankers which are not gas free, and vessels carrying dangerous substances whether break-bulk or containerized to which regulations made under the *Canada Shipping Act* or under the *Transportation of Dangerous Goods Act* or to which the *Dangerous Cargo Act* or the *Hazardous Materials Transportation Act* of the United States or regulations issued pursuant thereto apply, shall be deemed to carry dangerous substances and shall not transit unless all requirements of the said Statutes and regulations and of these Regulations have been fulfilled.

Explosive Vessels

67. A vessel carrying explosives, either Government or commercial, as defined in the Dangerous Cargo Act of the United States and in the International Maritime Dangerous Goods Code, Class 1, Divisions 1.1 to 1.5 inclusive, shall be deemed for the purpose of these Regulations to be an explosive vessel.

Explosives Permit

68. (1) A Seaway Explosives Permit is required for an explosive vessel in the following cases:

(a) for all vessels carrying any quantity of explosives with a mass explosive risk, up to a maximum of 2 tonnes (IMO Class 1, Division 1.1);

(b) for all vessels carrying more than 10 tonnes and up to a maximum of 50 tonnes of explosives that do not explode en masse (IMO Class 1, Division 1.2);

(c) for all vessels carrying more than 100 tonnes and up to a maximum of 500 tonnes of explosives having a fire hazard without explosive effect (IMO Class 1, Division 1.3); and

(d) for all vessels carrying more than 100 tonnes and up to a maximum of 500 tonnes of safety explosives and shop goods (IMO Class 1, Divisions 1.4 and 1.5).

(2) When an explosive vessel is carrying quantities of explosives above the maximum mentioned in subsection (1), no Seaway Explosives Permit shall be granted and the vessel shall not transit.

(3) A written application for a Seaway Explosives Permit showing that the cargo is packed, marked, labelled, described, certified, stowed and otherwise conforms with all relevant regulations of the country in which it was loaded and of Canada and the United States may be made to The St. Lawrence Seaway Authority, 202 Pitt Street, Cornwall, Ontario, K6J 3P7, or to the Saint Lawrence Seaway Development Corporation, P.O. Box 520, Massena, New York 13662.

(4) A signed copy of a Seaway Explosives Permit and a true copy of any certificate as to the loading of dangerous cargo shall be kept on board every explosive vessel in transit and shall be made available to any officer requiring production of such copies.

Hazardous Cargo Vessels

69. For the purpose of these Regulations, a vessel shall be deemed to be hazardous cargo vessel in the following cases:

(a) a tanker carrying fuel oil, gasoline, crude oil or other flammable liquids in bulk, having a flashpoint below 61°C, including a tanker that is not gas free where its previous cargo had a flashpoint below 61°C;

(b) a tanker carrying compressed liquified gases, bulk acids or liquified chemicals;

(c) a dry cargo vessel carrying the following dangerous substances, whether in bulk, break-bulk or containerized, that are

(i) in excess of 50 tonnes of gases, compressed, liquified or dissolved under pressure (IMO Class 2),

(ii) in excess of 50 tonnes of flammable liquids having a flashpoint below 61°C (IMO Class 3),

(iii) in excess of 50 tonnes of flammable solids, spontaneously combustible material or substances emitting combustible gases when wet (IMO Class 4),

(iv) in excess of 50 tonnes of oxidizing substances or organic peroxides (IMO Class 5),

(v) any quantity of poisonous (toxic) substances and infectious substances (IMO Class 6),

(vi) any quantity of radioactive substances (IMO Class 7),

(vii) in excess of 50 tonnes of corrosive substances (IMO Class 8),

(viii) any quantity of metal turnings, borings, cuttings, or shavings, in bulk having a temperature on loading or in transit in excess of 65.5°C,

(ix) any quantity of grain that is under fumigation, where the chemical being used is hazardous to human life, and

(x) any quantity of direct reduced iron (DRI).

Fendering — Explosive and Hazardous Cargo Vessels

70. All explosive vessels requiring a permit in accordance with Section 68 and all tankers carrying cargo with a flashpoint of up to 61°C, except those carrying such cargo in center tanks with gas free wing tanks, shall be equipped with a sufficient number of non-metallic fenders on each side to prevent any metallic part of the vessel from touching the side of a dock or lock wall.

Signals — Explosive and Hazardous Cargo Vessels

71. (1) An explosive vessel shall display at the masthead or at an equivalent conspicuous position a "B" flag.

(2) A hazardous cargo vessel shall display at the masthead or at an equivalent conspicuous position a "B" flag superior to numeral pennant number 1.

Reporting — Explosive and Hazardous Cargo Vessels

72. (1) Every explosive vessel or hazardous cargo vessel shall, when reporting information related to cargo as required by subsection 64(1), report the nature and tonnage of its explosive or hazardous cargo and the flashpoint of that cargo where applicable. Every vessel carrying grain which is under fumigation shall declare the nature of the fumigant and its properties.

(2) Every explosive vessel requiring a Seaway Explosives Permit shall, when reporting in, give the number of its Seaway Explosives Permit.

(3) Every hazardous cargo vessel carrying metal turnings, shavings, cuttings or borings in bulk shall, when reporting information related to cargo as required by subsection 64(1), give the high temperature reading of each compartment at that time, together with the high temperature reading in each compartment taken on completion of loading.

(4) Every vessel carrying radioactive substances shall, when reporting in, give the number and date of issue of any required certificate issued by the Atomic Energy Control Board authorizing such shipment.

Cleaning Tanks — Hazardous Cargo Vessels

73. Gas freeing and cleaning of cargo tanks shall not take place

(a) in a canal or a lock;

(b) in an area that is not clear of other vessels or structures; and

(c) before gas freeing and tank cleaning has been reported to the nearest Seaway station.

PART VI

TOLL ASSESSMENT AND PAYMENT

Transit Declaration

74. (1) A Seaway Transit Declaration Form (Cargo and Passenger), which may be obtained from The St. Lawrence Seaway Authority, 202 Pitt Street, Cornwall, Ontario, K6J 3P7 or from the Saint Lawrence Seaway Development Corporation, P.O. Box 520, Massena, New York, 13662, shall be forwarded to the Authority or the Corporation by the representative of a vessel, other than a pleasure craft of not more than 317.5 tonnes, within fourteen days after the vessel first enters the Seaway on any upbound or downbound voyage.

(2) The loaded or manifest weight of cargo shall be shown on the Seaway Transit Declaration Form, except in the case of petroleum products where gallonage meters are not available at the point of loading, in which case offloaded weights may be shown on the Declaration Form.

(3) Where a vessel carries cargo to or from an overseas port, a copy of the cargo manifest, duly certified, shall be forwarded with the Seaway Transit Declaration Form.

(4) A Weigh-Scale Certificate or similar document issued in the place of a cargo manifest may be accepted in lieu thereof.

(5) Where a Seaway Transit Declaration Form is found to be inaccurate concerning the destination, cargo or passengers, the representative shall immediately forward to the Authority or the Corporation a new, revised Declaration Form.

(6) The information set out in the Seaway Transit Declaration Form shall be transmitted by the Authority to Statistics Canada, and the Corporation will transmit the statistical data required in the United States.

(7) Seaway Transit Declaration Forms shall be used in assessing toll charges in accordance with the *St. Lawrence Seaway Tariff of Tolls*, and toll accounts shall be forwarded in duplicate to the representative or his designated agent.

Payment of Tolls

75. (1) Every toll account is payable in Canadian or American Funds, as indicated on the account, within fourteen days after it is issued, and any adjustment of the amount payable shall be provided for in a subsequent account.

(2) Tolls, established by agreement between Canada and the United States and known as the *St. Lawrence Seaway Tariff of Tolls*, shall be paid by pleasure craft in Canadian or American Funds for the transit of each Seaway lock.

In-Transit Cargo

76. Cargo that is carried both upbound and downbound in the course of the same voyage shall be reported in the Seaway Transit Declaration Form, but is deemed to be ballast and not subject to toll assessment.

77. (Revoked)

PART VII

INFORMATION AND REPORTS

Required Information

78. (1) Documentary evidence, comprising inspection certificates, load line certificates, crew lists, dangerous cargo manifest and the cargo stowage plan, shall be carried on board and shall be made available to any officer requiring production of such evidence.

(2) Documentary evidence, comprising evidence of cargo declared, cargo manifest, dangerous cargo manifest and bills of lading, shall be kept by the agent, owner or operator for a period of five years, or until an audit has been performed by the Authority or Corporation, whichever occurs first, and such documents shall be made available to an officer requiring production of such evidence.

Advance Notice of Arrival, Vessels Requiring Inspection

79. Every vessel shall provide at least twenty-four hours notice of arrival to the nearest Seaway station prior to an initial transit or in case reinspection of the vessel is required.

Reporting Dangerous Cargo

80. (1) The master of any explosive vessel or hazardous cargo vessel shall report to a Seaway station, as set out in Schedule III, the nature, quantity and IMO classification of the dangerous cargo and where it is stowed on the vessel.

(2) The master of any vessel, that takes on explosive or hazardous cargo while in the Seaway, shall report to the nearest Seaway station at least four hours prior to commencing transit from a port, dock or wharf, the nature, quantity and IMO classification of the dangerous cargo and where it is stowed on the vessel.

Reporting an Accident

81. (1) Where a vessel on the Seaway is involved in an accident, the master of the vessel shall report the accident to the nearest Seaway station immediately, if the vessel can make radio contact with the station, or as soon as the vessel can make radio contact with the station in any other case.

(2) Where a vessel approaching the Seaway with intent to transit has been involved in an accident in the course of its last voyage that might affect its ability to transit safely and expeditiously, the master of the vessel shall report the accident to the nearest Seaway station before entering the Seaway.

Reporting Mast Height

82. A vessel, any part of which extends more than 33.5 m above water level, shall not transit any part of the Seaway until precise information concerning the height of the vessel has been furnished to the nearest Seaway station.

Reporting Position at Anchor, Wharf, etc.

83. A vessel anchoring in a designated anchorage area, or elsewhere, and a vessel mooring at a wharf or dock, tying-up to a canal bank or being held on a canal bank in any manner shall immediately report its position to the vessel traffic controller and it shall not resume its voyage without the vessel traffic controller's permission.

Reporting of Impairment or Other Hazard by Vessels Transiting Within the Seaway

84. While transiting the Seaway, the master of a vessel shall immediately report to the nearest Seaway station:

(a) any condition of the vessel that might impair its ability to transit safely and expeditiously;

(b) any hazardous condition of the vessel;

(c) any malfunction on the vessel of equipment required by sections 5 to 21;

(d) any difficulty on the part of the vessel in controlling its tow or tows;

(e) any hazard, dangerous situation or malfunctioning aid to navigation which has not been published in a notice to mariners;

(f) any loss of anchor with particulars of the precise location of the loss; and

(g) any location where visibility is less than one nautical mile.

Reporting of Impairment or Other Hazard by Vessels Intending to Transit the Seaway

85. The master of any vessel which intends to transit the Seaway shall report to the nearest Seaway station, prior to entering the Seaway, any of the conditions set out in paragraphs 84 (a) to (d).

PART VIII

DETENTION AND SALE

Security for Damages or Injury

86. An officer may detain a vessel that causes

(a) damage to property of the Authority or the Corporation;

(b) damage to goods or cargo stored on property of the Authority or the Corporation; or

(c) injury to employees of the Authority or the Corporation;

until security satisfactory to the Authority or the Corporation has been provided.

Detention for Toll Arrears or Violations

87. (1) An officer may detain a vessel where

(a) the tolls or charges levied against the vessel have not been paid; or

(b) a violation of these Regulations has taken place in respect of the vessel.

(2) A vessel detained pursuant to paragraph (1)(a) shall be released when the unpaid tolls or charges are paid.

(3) A vessel detained pursuant to paragraph (1)(b) may be released when a sum of money in an amount, determined by the Authority or the Corporation to be the maximum fine or civil penalty that may be imposed for the violation in respect of which the vessel has been detained, is deposited with the Authority or the Corporation as security for the payment of any fine or civil penalty that may be imposed.

(4) Where a sum of money has been deposited pursuant to subsection (3), the Authority or the Corporation may

(a) return the deposit;

(b) hold the deposit in trust as security for the payment of any fine that may be imposed; or

(c) retain the deposit if the depositor agrees to retention by the Authority or the Corporation of the sum deposited.

(5) Although the depositor may have agreed to retention by the Authority or the Corporation of an amount deposited under subsection (3), he may bring an action for the recovery of the amount deposited on the ground that there has been no violation of these Regulations.

Power of Sale for Toll Arrears

88. Where a vessel has been detained pursuant to subsection 87(1) and payment of the tolls and charges or the fine imposed has not been made within a reasonable time after

(a) the time of the detention, in the case of arrears of tolls and charges, or

(b) the imposition of the fine or penalty, in the case of a violation,

the Authority or the Corporation may direct that the vessel or its cargo or any part thereof be seized and sold subject to and in accordance with an order of a court of competent jurisdiction.

PART IX

GENERAL

Transit Refused

89. An officer may refuse to allow a vessel to transit when, in his opinion,

(a) the vessel is not equipped in accordance with sections 6 to 21;

(b) the vessel, its cargo, equipment or machinery are in a condition that will prevent safe or expeditious transit by that vessel; or

(c) the vessel is manned with a crew that is incompetent or inadequate.

Boarding for Inspection

90. For the purpose of enforcing these Regulations, an officer may board any vessel and

(a) examine the vessel and its cargo; and

(b) determine that the vessel is adequately manned.

Removal of Obstructions

91. The Authority or the Corporation may take such action at the owner's expense as it deems necessary to move any vessel, cargo or thing that, in its opinion, obstructs or hinders transit of any part of the Seaway.

Wintering and Lying-Up

92. No vessel shall winter within the Seaway or lie-up within the Seaway during the navigation season except with the written permission of the Authority or the Corporation and subject to the conditions and charges that may be imposed.

Access to Seaway Property

93. (1) Except as authorized by an officer, no person shall load or unload goods on property of the Authority or the Corporation.

(2) Except as authorized by an officer or by the *Shore Traffic Regulations*, no person shall enter upon any land or structure of the Authority or the Corporation or swim in any Seaway canal or lock area.

Keeping Copy of Regulations

94. A copy of these Regulations shall be kept on board every vessel in transit.

Compliance with Regulations

95. The master or owner of a vessel shall ensure that all requirements of these Regulations applicable to that vessel are complied with.

PART X

Navigation Closing Procedures

96. In this Part,

"clearance date" means the date designated in each year by the Authority and the Corporation as the date by which vessels must report at the applicable calling in point referred to in subsection 97(3) for final transit of the Montreal-Lake Ontario Section of the Seaway; (date-limite)

"closing date" means the date designated in each year by the Authority and the Corporation as the date on which the Seaway is closed to vessels at the end of the navigation season; (date de fermeture)

"closing period" means the period that commences on the date designated in each year by the Authority and the Corporation as the date on which the closing procedures in section 97 apply and that ends on the closing date; (période de fermeture)

"Montreal-Lake Ontario Section of the Seaway" means the portion of the Seaway between the Port of Montreal and mid-Lake Ontario; (section Montréal-lac Ontario de la voie maritime)

"wintering vessel" means a vessel that enters the Seaway upbound after a date designated each year by the Authority and the Corporation and transits above Port Colborne. (navire hivernant)

Closing Procedures

97. (1) No wintering vessel shall return downbound through the Montreal-Lake Ontario Section of the Seaway in the same navigation season in which it entered the Seaway unless the transit is authorized by the Authority and the Corporation.

(2) No vessel shall transit the Montreal-Lake Ontario Section of the Seaway during the closing period in a navigation season unless

(a) it reports at the applicable calling in point referred to in subsection (3) on or before the clearance date in that navigation season; or

(b) it reports at the applicable calling in point referred to in subsection (3) within a period of 96 hours after the clearance date in that navigation season, it complies with the provisions of the agreement between Canada and the United States known as the *St. Lawrence Seaway Tariff of Tolls* and the transit is authorized by the Authority and the Corporation.

(3) For the purposes of subsection (2), the calling in point is,

(a) in the case of an upbound vessel, Cap St. Michel; and

(b) in the case of a downbound vessel, Cape Vincent.

(4) No vessel shall transit the Montreal-Lake Ontario Section of the Seaway after the period of 96 hours referred to in paragraph (2) (b) unless the transit is authorized by the Authority and the Corporation.

(5) Every vessel that, during a closing period, enters the Montreal-Lake Ontario Section of the Seaway, upbound or downbound, or departs upbound from any port, dock, wharf or anchorage in that Section shall,

(a) at the time of such entry or departure, report to the nearest Seaway station the furthermost destination of the vessel's voyage and any intermediate destinations within that Section; and

(b) at the time of any change in those destinations, report such changes to the nearest Seaway station.

(6) Where ice conditions restrict navigation during a closing period,

(a) no upbound vessel that has a power to length ratio of less than 24:1 (kW/metre) and a forward draft of less than 50 dm, and

(b) no downbound vessel that has a power to length ratio of less than 15:1 (kW/metre) and a forward draft of less than 25 dm

shall transit between the St. Lambert Lock and the Iroquois Lock of the Montreal-Lake Ontario Section of the Seaway.

SCHEDULE I

Vessels Transiting U.S. Waters

No vessel of 1600 gross tons or more shall transit the U.S. Waters of the St. Lawrence Seaway unless it is equipped with the following manoeuvring data and equipment:

(1) Charts of the Seaway that are currently corrected and of large enough scale and sufficient detail to enable safe navigation. These may be published by a foreign government if the charts contain similar information to those published by the U.S. Government.

(2) U.S. Coast Guard Light List, currently corrected.

(3) Current Seaway Notices Affecting Navigation.

(4) The following manoeuvring data prominently displayed on a fact sheet in the wheelhouse:

(a) for full and half speed, a turning circle diagram to port and starboard that shows the time and distance of advance and transfer required to alter the course 90 degrees with maximum rudder angle and constant power settings;

(b) the time and distance to stop the vessel from full and half speed while maintaining approximately the initial heading with maximum application of rudder;

(c) for each vessel with a fixed propeller, a table of shaft revolutions per minute for a representative range of speeds;

(d) for each vessel that is fitted with a controllable pitch propeller, a table of control settings for a representative range of speeds;

(e) for each vessel that is fitted with an auxiliary device to assist in manoeuvring, such as a bow thruster, a table of vessel speeds at which the auxiliary device is effective in manoeuvring the vessel;

(f) the manoeuvring information for the normal load and normal ballast condition for

(i) calm weather — wind 10 knots or less, calm sea;

(ii) no current;

(iii) deep water conditions — water depth twice the vessel's draft or greater; and

(iv) clean hull;

(g) at the bottom of the fact sheet, the following statement:

WARNING

The response of the (name of the vessel) may be different from the above if any of the following conditions, on which the manoeuvring is based, are varied:

(a) calm weather — wind 10 knots or less, calm sea;

(b) no current;

(c) deep water conditions — water depth twice the vessel's draft or greater;

(d) clean hull;

(e) intermediate drafts or unusual trim.

(5) Illuminated magnetic compass at the main steering station with compass deviation table, graph or record.

(6) Gyro-compass with illuminated gyro-repeater at the main steering station.

(7) Marine radar system for surface navigation. Additionally, vessels of 10,000 gross tons or more must have a second main radar system that operates independently of the first.

(8) Efficient echo sounding device.

(9) Illuminated rudder angle indicator or repeaters that are

(a) located in the wheelhouse; and

(b) arranged so that they can easily be read from any position on the bridge.

(10) Illuminated indicator showing the operating mode of that device when vessel is equipped with auxiliary manoeuvring devices.

SCHEDULE II
(Section 28)

Table of Speeds[1]

Item	Column I From	Column II To	Maximum Speed Over the Bottom (knots) Column III	Column IV
1.	Upper Entrance South Shore Canal	Lake St. Louis Buoy A13	10.5	10.5
2.	Lake St. Louis Buoy A13	Lower Entrance Lower Beauharnois Lock	16	16
3.	Upper Entrance Upper Beauharnois Lock	Lake St. Francis Buoy D3	9 (upb) 10.5 (dnb)	9 (upb) 10.5 (dnb)
4.	Lake St. Francis Buoy D3	Lake St. Francis Buoy D49	16	16
5.	Lake St. Francis Buoy D49	Snell Lock	8.5 (upb) 10.5 (dnb)	8 (upb) 10.5 (dnb)
6.	Eisenhower Lock	Richards Point Lt. 55	11.5	10.5
7.	Richards Point Lt. 55	Morrisburg Buoy 84	13	10.5
8.	Morrisburg Buoy 84	Ogden Island Buoy 99	11.5	10.5
9.	Ogden Island Buoy 99	Blind Bay 1/2 mile east of Buoy 162	13	10.5
10.	Blind Bay 1/2 mile east of Buoy 162	Deer Island Lt. 186	11.5	10.5
11.	Deer Island Lt. 186	Bartlett Point Lt. 227	8.5 (upb) 10.5 (dnb)	8 (upb) 10.5 (dnb)
12.	Bartlett Point Lt. 227	Tibbetts Point	13	10.5
13.	Junction of Canadian Middle Channel and Main Channel abreast of Ironsides Island	Open Waters between Wolfe and Howe Islands through the said Middle Channel	9.5	9.5
14.	Port Robinson	Ramey's Bend through the Welland By-Pass	8	8
15.	All other canals		6	6

[1]Maximum speeds at which a vessel may travel in identified area in both normal and high water conditions are set out in this schedule. The Authority and the Corporation will, from time to time, designate the set of speed limits that is in effect.

SCHEDULE III

Calling In Table

Column I C.I.P. and Check Point	Column II Station to Call	Column III Message Content
Upbound Vessels:		
1. C.I.P. 2 — Entering Sector 1 (order of passing through established)		
(a) Vessels transiting from the Lower St. Lawrence River	Seaway Beauharnois Ch. 14	1. Name of Vessel 2. Location 3. Destination 4. Drafts, fore and aft 5. Cargo 6. Manifested dangerous cargo — nature and quantity — IMO classification — location where dangerous cargo is stowed 7. Pilot requirement — Lake Ontario 8. Confirm pilot requirement — Upper Beauharnois Lock (inland vessels only)
(b) Vessels in Montreal Harbour, dock, berth or anchorage		
(i) Before getting under way	Seaway Beauharnois Ch. 14	1. Name of Vessel 2. Location 3. Destination 4. Drafts, fore and aft 5. Cargo 6. Manifested dangerous cargo — nature and quantity — IMO classification — location where dangerous cargo is stowed 7. Pilot requirement — Lake Ontario 8. Confirm pilot requirement — Upper Beauharnois Lock (inland vessels only)
(ii) C.I.P. 2 — Entering Sector 1 (order of passing through established)	Seaway Beauharnois Ch. 14	1. Name of Vessel 2. Location

C.I.P. and Check Point	Station to Call	Message Content
2. C.I.P. 3 — (order of passing through established)	Seaway Beauharnois Ch. 14	1. Name of Vessel 2. Location
3. Exiting Upper Beauharnois Lock	Seaway Beauharnois Ch. 14	1. Name of Vessel 2. Location 3. ETA C.I.P. 7 4. Confirm Pilot Requirement — Snell Lock (inland vessels only)
4. C.I.P. 7 — Leaving Sector 1	Seaway Beauharnois Ch. 14	1. Name of Vessel 2. Location
5. C.I.P. 7 — Entering Sector 2	Seaway Eisenhower Ch. 12	1. Name of Vessel 2. Location 3. Destination 4. Drafts, fore and aft 5. Cargo 6. ETA Snell Lock
6. C.I.P. 8 — (order of passing through established)	Seaway Eisenhower Ch. 12	1. Name of Vessel 2. Location
7. C.I.P. 8A	Seaway Eisenhower Ch. 12	1. Name of Vessel 2. Location
8. Exiting Eisenhower Lock	Seaway Eisenhower Ch. 12	1. Name of Vessel and call sign 2. Location 3. ETA C.I.P. II 4. Confirm Pilot Requirement — Lake Ontario 5. First U.S. port of call 6. ETA first U.S. port of call
9. C.I.P. 11 — Leaving Sector 2	Seaway Eisenhower Ch. 12	1. Name of Vessel 2. Location
10. C.I.P. 11 — Entering Sector 3	Seaway Iroquois Ch. 11	1. Name of Vessel 2. Location
11. C.I.P. 12 — (order of passing through established)	Seaway Iroquois Ch. 11	1. Name of Vessel 2. Location
12. Exiting Iroquois Lock	Seaway Iroquois Ch. 11	1. Name of Vessel 2. Location 3. ETA Crossover Island

C.I.P. and Check Point	Station to Call	Message Content
13. Crossover Island — Leaving Sector 3	Seaway Iroquois Ch. 11	1. Name of Vessel 2. Location
14. Crossover Island — Entering Sector 4	Seaway Clayton Ch. 13	1. Name of Vessel 2. Location 3. ETA Cape Vincent or River Port 4. Confirm pilot requirement — Lake Ontario
15. Wolfe Is. Cut (Beauvais Point) — Vessels leaving main channel	Seaway Clayton Ch. 13	1. Name of Vessel 2. Location 3. ETA Kingston
16. Cape Vincent	Seaway Clayton Ch. 13	1. Name of Vessel 2. Location 3. ETA Sodus Point 4. ETA Port Weller (CIP 15) or Lake Ontario Port 5. Pilot requirement — Port Weller
17. Sodus Pt.	Seaway Sodus Ch. 13	1. Name of Vessel 2. Location 3. ETA mid-Lake Ontario 4. ETA Newcastle
18. Mid-Lake Ontario — Leaving Sector 4	Seaway Sodus Ch. 13	1. Name of Vessel 2. Location
19. Mid-Lake Ontario — Entering Sector 5	Seaway Newcastle Ch. 11	1. Name of Vessel 2. Location 3. Manifested dangerous cargo — nature and quantity — IMO classification — location where dangerous cargo is stowed
20. Newcastle	Seaway Newcastle Ch. 11	1. Name of Vessel 2. Location 3. Updated ETA Port Weller (CIP 15) or Lake Ontario Port 4. Confirm pilot requirement — Port Weller

C.I.P. and Check Point	Station to Call	Message Content
21. C.I.P. 15 — (order of passing through established)	Seaway Welland Ch. 14	1. Name of Vessel 2. Location 3. Destination 4. Drafts, fore and aft 5. Cargo 6. Pilot requirement — Lake Erie
22. Port Colborne Piers	Seaway Welland Ch. 14	1. Name of Vessel 2. Location 3. ETA Long Point
23. C.I.P. 16	Seaway Long Point Ch. 11	1. Name of Vessel 2. Location
24. Long Point — Leaving Sector 7	Seaway Long Point Ch. 11	1. Name of Vessel 2. Location
25. (Revoked)		
26. (Revoked)		
Downbound Vessels		
27. (Revoked)		
28. (Revoked)		
29. Long Point — Entering Sector 7	Seaway Long Point Ch. 11	1. Name of Vessel 2. Location 3. ETA C.I.P. 16 4. Manifested dangerous cargo — nature and quantity — IMO classification — location where dangerous cargo is stowed
30. C.I.P. 16 — (order of passing through established)	Seaway Welland Ch. 14	1. Name of Vessel 2. Location 3. Destination 4. Drafts, fore and aft 5. Cargo 6. Pilot requirement — Lake Ontario
31. Exiting Lock No. 1 — Welland Canal	Seaway Welland Ch. 14	1. Name of Vessel 2. Location 3. ETA Newcastle 4. ETA Cape Vincent or Lake Ontario Port

C.I.P. and Check Point	Station to Call	Message Content
		5. Pilot requirement — Cape Vincent
32. C.I.P. 15	Seaway Newcastle Ch. 11	1. Name of Vessel 2. Location
33. Newcastle	Seaway Newcastle Ch. 11	1. Name of Vessel 2. Location 3. ETA Mid-Lake Ontario 4. ETA Sodus Point
34. Mid-Lake Ontario — Leaving Sector 5	Seaway Newcastle Ch. 11	1. Name of Vessel 2. Location
35. Mid-Lake Ontario — Entering Sector 4	Seaway Sodus Ch. 13	1. Name of Vessel 2. Location 3. Manifested dangerous cargo — nature and quantity — IMO classification — location where dangerous cargo is stowed
36. Sodus Point	Seaway Sodus Ch. 13	1. Name of Vessel 2. Location 3. Destination 4. Drafts, fore and aft 5. Cargo 6. Updated ETA Cape Vincent or Lake Ontario Port 7. Confirm river pilot requirement — Cape Vincent 8. Pilot requirement — Snell Lock and/or Upper Beauharnois Lock (inland vessels only)
37. Cape Vincent	Seaway Clayton Ch. 13	1. Name of Vessel 2. Location 3. ETA Crossover Island or river port
38. Wolfe Is. Cut (Quebec Head) — Vessels Entering Main Channel	Seaway Clayton Ch. 13	1. Name of Vessel 2. Location 3. ETA Crossover Island or river port
39. Crossover Island — Leaving Sector 4	Seaway Clayton Ch. 13	1. Name of Vessel 2. Location

C.I.P. and Check Point	Station to Call	Message Content
40. Crossover Island — Entering Sector 3	Seaway Iroquois Ch. 11	1. Name of Vessel 2. Location 3. Destination 4. Drafts, fore and aft 5. Cargo
41. C.I.P. 14	Seaway Iroquois Ch. 11	1. Name of Vessel 2. Location
42. C.I.P. 13 — (order of passing through established)	Seaway Iroquois Ch. 11	1. Name of Vessel 2. Location
43. Exiting Iroquois Lock	Seaway Iroquois Ch. 11	1. Name of Vessel 2. Location 3. ETA C.I.P. 10 4. Harbour or river pilot requirement — St. Lambert 5. Confirm pilot requirement — Snell Lock (inland vessels only)
44. C.I.P. 10 — Leaving Sector 3	Seaway Iroquois Ch. 11	1. Name of Vessel 2. Location
45. C.I.P. 10 — Entering Sector 2	Seaway Eisenhower Ch. 12	1. Name of Vessel 2. Location
46. C.I.P. 9 — (order of passing through established)	Seaway Eisenhower Ch. 12	1. Name of Vessel 2. Location 3. ETA Snell Lock
47. Exiting Snell Lock	Seaway Eisenhower Ch. 12	1. Name of Vessel 2. Location 3. ETA C.I.P. 6
48. Buoy D47 — Lake St. Francis	Seaway Eisenhower Ch. 12	1. Name of Vessel 2. Location 3. Confirm pilot requirement — Upper Beauharnois Lock (inland vessels only)
49. C.I.P. 6 — Leaving Sector 2	Seaway Eisenhower Ch. 12	1. Name of Vessel 2. Location
50. C.I.P. 6 — Entering Sector 1	Seaway Beauharnois Ch. 14	1. Name of Vessel 2. Location

C.I.P. and Check Point	Station to Call	Message Content
51. C.I.P. 5 — (order of passing through established)	Seaway Beauharnois Ch. 14	1. Name of Vessel 2. Location
52. Exiting Lower Beauharnois Lock	Seaway Beauharnois Ch. 14	1. Name of Vessel 2. Location 3. Confirm harbour or river pilot requirement — St. Lambert 4. Montreal Harbour Berth No. (if applicable)
53. St. Nicholas Island	Seaway Beauharnois Ch. 14	1. Name of Vessel 2. Location
54. St. Lambert Lock to C.I.P. 2 — Leaving Sector 1	Seaway Beauharnois Ch. 14	1. Name of Vessel 2. Location

APPENDIX I

Vessel Dimensions

Structures are located at a number of Seaway locks which, when fully raised, overhang the lock wall at a given point, thereby limiting:

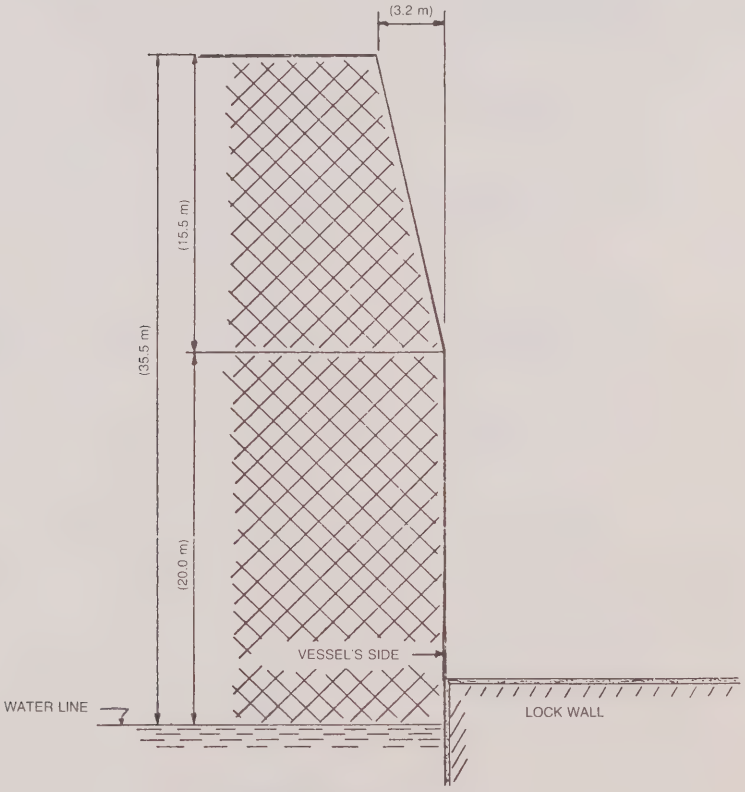
(a) the height of a vessel above the water line measured at the vessel's side; and

(b) the height of other structures that are located near the sides of the vessel, such as derricks, crosstrees, antennas, etc.

The following block diagram shows the limits beyond which a vessel's hull or superstructure cannot extend *when the vessel is alongside the lock wall.*

The limits in the block diagram are based on vessels with a maximum allowable beam of 23.16 m. For vessels that have a beam width less than this and that have dimensions exceeding the limits of the block diagram (measured with the vessel alongside the lock wall), a special permission to transit must be obtained. (Accurate measurements may be required before such permission is granted).

Caution: Masters must take into account the ballast draft of the vessel when verifying the maximum permissible dimensions.



VESSEL DIMENSIONS

Block Diagram

N.B. Not to scale

ST. LAWRENCE SEAWAY TARIFF OF TOLLS

Title

1. This tariff may be cited as the *St. Lawrence Seaway Tariff of Tolls*.

Interpretation

2. In this tariff

(a) "Authority" means The St. Lawrence Seaway Authority;

(b) "Bulk cargo" means such goods as are loose or in mass and generally must be shovelled, pumped, blown, scooped or forked in the handling and, without limiting the generality of the term or otherwise affecting its meaning, shall be deemed to include:

(i) cement, loose or in sacks;
(ii) coke and petroleum coke, loose or in sacks;
(iii) domestic package freight;
(iv) liquids carried in ships' tanks;
(v) ores and minerals (crude, screened, sized or concentrated, but not otherwise processed) loose or in sacks, including alumina, bauxite, coal, gravel, phosphate rock, sand, stone and sulphur;
(vi) pig iron, scrap metals;
(vii) pulpwood, poles and logs, loose or bundled;
(viii) raw sugar, flour, loose or in sacks;
(ix) woodpulp, loose or in bales;

(c) "Cargo" means all goods aboard a vessel whether carried as revenue or non-revenue freight, or carried for the vessel owner, **except**: empty containers and the tare weight of loaded containers, all such containers having a capacity of 18 cubic meters (635.665 cubic feet) or more; ships' fuel, ballast or stores, or crew or passengers' personal effects, and intransit cargo that is carried both upbound and downbound in the course of the same voyage which shall be reported in the Seaway Transit Declaration Form but is deemed to be ballast and not subject to toll assessment;

(d) "Containerized cargo" means any general cargo shipped in an enclosed, permanent, reusable, nondisposable, weathertight shipping conveyance having a capacity of 18 cubic meters (635.665 cubic feet) or more and fitted with a minimum of one hinged door;

(e) "Corporation" means the Saint Lawrence Seaway Development Corporation;

(f) "Domestic package freight" means cargo, the shipment of which originates at one Canadian point and terminates at another Canadian point, or which originates at one United States point and terminates at another United States point, but shall not include any import or export cargo designated at the point of origin for transshipment by water at a point in Canada or in the United States;

(g) "Feed grains" means barley, corn, oats, flaxseed, rapeseed, soybeans and other field crop seeds, grain screenings, and mill feed containing not more than 35% of ingredients other than grain or grain products;

(h) "Food grains" means buckwheat, dried beans, dried peas, rye, and wheat;

(i) "General cargo" means all goods not included in the definitions under paragraphs (b), (g), (h), and (j);

(j) "Government aid cargo" means processed food products which have been donated by or the purchase of which has been financed on concessional terms by the Federal government of either the United States or Canada for the purposes of nutrition, economic development, emergency, or disaster relief programs;

(k) "Metric ton" means, unless otherwise stated, a metric unit of weight of 1,000 kilograms (2204.62 pounds);

(l) "Passenger" means any person being transported through the Seaway who has paid a fare for passage;

(m) "Pleasure craft" means a vessel, however propelled, that is used exclusively for pleasure and does not carry passengers;

(n) "St. Lawrence Seaway" includes all facilities and services authorized under the St. Lawrence Seaway Authority Act, Chapter 242, Revised Statutes of Canada, 1952, as amended, and under Public Law 358, 83rd Congress, May 13, 1954, enacted by the Congress of the United States, as amended, and including the Welland Canal, which facilities are under the control and administration or immediate financial responsibility of either the Authority or the Corporation;

(o) "Seaway" means the St. Lawrence Seaway;

(p) "Tolls" means the total assessment levied against a vessel, its cargo and passengers for complete or partial transit of the Seaway covering a single trip in one direction;

(q) "Vessel" means every type of craft used as a means of transportation on water, except a vessel of or employed by the Authority or the Corporation.

Tolls

3. (1) The tolls shall be as set forth in the Schedule hereto, and the toll level reached in 1983 shall remain in effect thereafter until modified.

(2) The tolls under this tariff are due from the representatives of each vessel as soon as they are incurred, and payment shall be made within thirty days of the vessel's entry into the Seaway.

(3) The tolls for the section between Montreal and Lake Ontario shall be paid 73 percent in Canadian dollars and 27 percent in United States dollars. Payments for transit through locks in Canada only shall be in Canadian dollars, and payments for transit through locks in the United States only shall be in United States dollars.

(4) The tolls for transit of the Welland Canal shall be paid in Canadian dollars and shall accrue to the Authority.

Security for Payment

4. A representative of each vessel shall provide the Authority or the Corporation with security, satisfactory to the Authority or the Corporation, for payment of tolls.

Description and Weight of Cargo

5. (1) A cord of pulpwood shall be deemed to weigh 1,450 kilograms (3196.70 pounds).

(2) (a) 1,000 f.b.m. of sawn softwood lumber with less than 15% moisture content shall be deemed to weigh 770 kilograms (1697.56 pounds).

(b) 1,000 f.b.m. of sawn softwood lumber with 15% moisture content or over shall be deemed to weigh 950 kilograms (2094.39 pounds).

(c) 1,000 f.b.m. of sawn hardwood lumber with less than 15% moisture content shall be deemed to weigh 1,135 kilograms (2502.24 pounds).

(d) 1,000 f.b.m. of sawn hardwood lumber with 15% moisture content or over shall be deemed to weigh 1,405 kilograms (3097.49 pounds).

(3) The tonnage used in the assessment of tolls shall be calculated to the nearest 1,000 kilograms (2204.62 pounds).

Post-Clearance Date Operational Surcharges

6. If the Authority and the Corporation so determine, they may establish a clearance date for the transit of the Montreal-Lake Ontario section. Each vessel which does not comply with the conditions announced by the Authority and the Corporation in establishing the clearance date may be required to pay in dollars an amount not exceeding the operational surcharges set forth below:

(a) Vessels reporting during the 24 hour period immediately following the clearance date: 20,000.00
(b) Vessels reporting more than 24 hours late, but less than 48 hours after the clearance date: 40,000.00
(c) Vessels reporting more than 48 hours late, but less than 72 hours after the clearance date: 60,000.00
(d) Vessels reporting more than 72 hours late, but less than 96 hours after the clearance date: 80,000.00

The operational surcharge assessed vessels already at a port, dock or wharf within the St. Lambert-Iroquois Lock segment of the Montreal-Lake Ontario section at the clearance date shall be $20,000 less than the amount otherwise applicable.

Each vessel which reports more than 96 hours after the clearance date may transit only if a prior written agreement authorizing such transit has been entered into among the owner or agent of the vessel and the Authority and the Corporation. Such agreement may provide for additional operational surcharges.

Assessed operational surcharges will be prorated on a per lock basis. Surcharges representing transit through United States locks will be for the account of the Corporation and payable in United States funds and surcharges representing transit through Canadian locks will be for the account of the Authority and will be payable in Canadian funds.

Schedule

	Tolls	
	Montreal to or from Lake Ontario	Lake Ontario to or from Lake Erie (Welland Canal)
	1986	**1986**
1. For transit of the Seaway, a composite toll, comprising:		
(1) a charge in dollars per gross registered ton, according to national registry of the vessel, applicable whether the vessel is wholly or partially laden, or is in ballast. (All vessels shall have an option to calculate gross registered tonnage according to prescribed rules for measurement in either Canada or the United States.):	0.08	0.08
(2) a charge in dollars per metric ton of cargo as certified on ship's manifest or other document, as follows:		
—bulk cargo	0.85	0.36
—general cargo	2.06	0.58
—containerized cargo	0.85	0.36
—government aid cargo	0.52	0.36
—food grains	0.52	0.36
—feed grains	0.52	0.36
(3) a charge in dollars per passenger per lock:	1.00	1.00
(4) a charge in dollars per lock for complete or partial transit of the Welland Canal in either direction by cargo or passenger vessels, which may be shared by vessels in tandem:		
(i) loaded: per lock	N/A	290.00
(ii) in ballast: per lock	N/A	215.00
2. For partial transit of the Seaway:		
(1) between Montreal and Lake Ontario, in either direction, 15 percent per lock of the applicable toll.		
(2) between Lake Ontario and Lake Erie, in either direction, (Welland Canal), 13 percent per lock of the applicable toll.		
(3) Minimum charge in dollars per vessel per lock transited for full or partial transit of the Seaway:		
—pleasure craft	5.00	6.00
—other vessels	10.00	11.00

CHARGES ON GOODS OR CARGO LANDED, SHIPPED, TRANSSHIPPED OR STORED

Short Title

1. This Tariff may be cited as the *St. Lawrence Seaway Wharfage and Storage Charges Tariff*.

Interpretation

2. In this Tariff,

''Authority'' means The St. Lawrence Seaway Authority; (Administration)

''bulk cargo'' means such goods as are loose or in mass and generally must be shovelled, pumped, blown, scooped or forked in the handling and, without limiting the generality of the foregoing, shall be deemed to include

(a) barley, buckwheat, corn, dried beans, dried peas, flaxseed, rape seed and other oil seeds, flour, grain screenings, mill feed containing not more than 35 per cent of ingredients other than grain or grain products, oats, rye and wheat, loose or in sacks,

(b) cement, loose or in sacks,

(c) coke and petroleum coke, loose or in sacks,

(d) domestic package freight,

(e) liquids carried in ships' tanks,

(f) ores and minerals (crude, screened, sized or concentrated, but not otherwise processed) loose or in sacks, including alumina, bauxite, coal, gravel, phosphate rock, sand, stone and sulphur,

(g) pig iron, scrap iron and scrap steel,

(h) pulpwood, poles and logs, loose or bundled,

(i) raw sugar, loose or in sacks, and

(j) woodpulp, loose or in bales; (cargaison en vrac)

''canal'' means any constructed part of the St. Lawrence Seaway and includes any canals and lands appurtenant thereto that are under the administration and control of the Authority; (canal)

''general cargo'' means all goods other than bulk cargo; (marchandises diverses)

''owner'' includes

(a) in respect of goods, the consignor and consignee of the goods, and

(b) in respect of a vessel, every person who is a representative as defined in section 2 of the *Seaway Regulations*; (propriétaire)

''side wharfage'' means a toll charged on a vessel in respect of the period of time that the vessel is loading, unloading or lying in wait in a canal: (droit d'accostage)

''storage charge'' means a toll charged on goods in respect of the period of time that the goods are stored at a canal; (droit de magasinage)

''tonne'' means one thousand kilograms; (tonne)

''top wharfage'' means a toll charged on goods that are unloaded from or loaded onto a vessel or transshipped between vessels in a canal; (droit de terre-plein)

Tolls

3. (1) Subject to subsections (2) and (3), the toll set out in column II of a paragraph of an item of Schedule I is payable in respect of the goods or vessel described in column I of that item for the type of goods or period set out in column I of that paragraph.

(2) Top wharfage is not payable in respect of grain or grain products that are destined for export from Canada.

(3) Where the Authority has leased any area at a canal the Authority may, by resolution, excempt persons from the payment of top wharfage in respect of goods loaded or unloaded at that area.

4. The tolls prescribed by this Tariff are due

(a) jointly from the owner of the goods and the owner of the vessel from which the goods are transshipped, in the case of tolls prescribed in respect of goods where the goods are transshipped from one vessel to another vessel at a canal,

(b) jointly from the owner of the goods and the owner of the vessel on which the goods are shipped in the case of tolls prescribed in respect of goods where the goods are loaded to or from a vessel at a canal other than by transshipment between vessels,

(c) from the owner of the goods in the case of tolls prescribed for the storage of goods, and

(d) from the owner of the vessel in the case of tolls prescribed in respect of a vessel,

and such tolls are due as soon as they are incurred and shall be paid to the appropriate officer of the Authority at the canal at which they are incurred.

5. Top wharfage at a canal is payable only once in respect of goods other than goods that are

(a) reshipped at a canal after having been removed therefrom; or

(b) reshipped at a canal after being altered in form or composition.

Conversion

6. For the purposes of this Tariff, the quantity set out in column II of an item of Schedule II in respect of the goods set out in column I of that item is deemed to weigh the number of kilograms set out in column III of that item.

SCHEDULE I

PRESCRIBED TOLLS

	Column I Description of Goods or Vessel	*Column II* Toll
	Top Wharfage	
1.	Goods loaded, unloaded or transshipped at a canal	
	(a) bulk cargo	$ 0.17 per tonne
	(b) general cargo	$ 0.39 per tonne
	Storage Charge	
2.	Goods stored at a Canal on land other than land leased by the Authority to any person	
	(a) first 48 hours	no charge
	(b) each period of 7 days or part thereof after first 48 hrs.	$ 0.20 per square metre or area occupied for storage
	Side Wharfage	
3.	A vessel berthed in a canal	
	(a) first 48 hours	no charge
	(b) each period of 24 hrs. or part thereof after first 48 hrs.	$ 0.03 per gross registered ton
	Lying-Up Charge	
4.	A vessel lying-up at a canal or area that has been set aside by the Authority for that purpose	
	(a) for each period of 30 days or part thereof during the navigation season	$ 0.05 per gross registered ton
	(b) for the whole or part of the season during which navigation is closed	$ 0.05 per gross registered ton (minimum charge $57)

SCHEDULE II
(s.6)

Conversion Table

	Column I Goods	Column II Quantity	Column III Weight kg
1.	Lumber, logs, poles and ties	m^3 (softwood) m^3 (hardwood)	400 600
2.	Crude oil	kL	830
3.	Crushed stone	m^3	1,500
4.	Fuel oil		
	(a) distillate	kL	830
	(b) residual	kL	950
5.	Gasoline	kL	750
6.	Pulpwood	m^3	400
7.	Refined oil	kL	810
8.	Sand and gravel	m^3	1,720

CONVERSION TABLE

BRITISH – U.S. – INTERNATIONAL AND METRIC UNITS

British – U.S. – International Units			Metric Units (SI)
LENGTH			
1	nautical mile (U.S.-Int.)	=1.852	km
0.53996	nautical mile (U.S.-Int.)	=1	km
1	nautical mile (Br)	=1.853 184	km
0.539612	nautical mile (Br)	=1	km
1	mile	=1.609 344	km
0.621371	mile	=1	km
1	inch	=2.540	cm
0.39370	inch	=1	cm
1	foot	=0.304 8	m
3.2808	feet	=1	m
MASS			
1	ton (long)	=1 016.046 908 8	kg
0.9842065	ton (long)	=1000.0	kg
1	ton (short)	=907.184 74	kg
1.10231	tons (short)	=1000.0	kg
1	pound	=0.453 592 37	kg
2.20462262	pounds	=1	kg
CAPACITY			
1	gallon (Br)	=4.546 092	dm^3
0.219969	gallon (Br)	=1	dm^3
1	gallon (U.S.)	=3.785 412	dm^3
0.264172	gallon (U.S.)	=1	dm^3

Note: Relevant units used with the S1
a) 1 tonne (t) or 1 metric ton = 1000 kg
b) 1 litre = 1 dm^3

INFORMATION ON VESSEL TRANSIT AND EQUIPMENT REQUIREMENTS

INDEX

INTRODUCTION

This section of the Seaway Handbook has been prepared to provide vessel masters and pilots with general transit and required equipment information for the St. Lawrence Seaway and is intended to complement the Seaway Regulations. The information herein contained does not supersede the Seaway Regulations.

The capacity of the Seaway system is limited principally by the locks and, in order to achieve maximum utilization of the facilities, a number of procedures, methods and special aids have been introduced.

Many of the subjects described in this section are designed to minimize the idle time at locks and to thus achieve the prime aim of minimizing round trip transit times for vessels.

To achieve complete success in realizing our mutual aim, the willing co-operation between masters, pilots and Seaway operations personnel is essential and, therefore, the full co-operation of all concerned is requested.

If any additional information is required, you are asked to direct your inquiries to:

The Director of Operations and Maintenance
The St. Lawrence Seaway Authority
202 Pitt Street
Cornwall, Ontario, Canada
K6J 3P7

or to

Chief, Office of Lock Operations
Saint Lawrence Seaway Development Corporation
Post Office Box 520
Massena, New York 13662
U.S.A.

GENERAL TRANSIT INFORMATION

1. Traffic Control

The purpose of Seaway Traffic Control is principally to provide safe and efficient scheduling of vessels. Associated with this is the information service in connection with Search and Rescue, Pilot Scheduling and vessel information to the shipping entities and the public.

Vessel traffic in the Seaway is controlled from three main centres: one located in St. Lambert, Quebec, one in Massena, New York, and the other in St. Catharines, Ontario. The St. Lambert centre operates through two radio stations: Seaway Beauharnois and Seaway Iroquois. The Massena centre operates through three radio stations: Seaway Eisenhower (KEF), Seaway Clayton (WAG) and Seaway Sodus, while the St. Catharines centre operates through three stations: Seaway Welland, Seaway Newcastle and Seaway Long Point.

In each control centre the Traffic Controllers have a number of aids available to assist them in their work. Some of these aids are: closed circuit television, display boards and an extensive communications network.

2. Pilotage Requirements

Masters or agents of vessels in ports or at docks wishing to order a pilot should do so directly via Landline communication with the nearest pilotage dispatch office.

Procedures regarding the reporting of pilotage requirements when in transit are described in the Seaway Regulations.

3. Lock Communications

Within the lock area, instructions to vessels and to lock operating personnel are communicated via a loudspeaker (P.A.) system except in the Flight Locks (Locks 4, 5 and 6 of the Welland Canal) where portable radio telephones are utilized.

Radio communications which are in effect in the Flight Locks are:

1. Acknowledge the initial call made by the lockmaster.
2. Answer all subsequent calls made by the lockmaster whenever possible.
3. *Upbound Vessels*: The lockmaster, Lock 3, will place a portable radio on board all ocean vessels and on inland vessels in excess of 190 m in length. He will ensure that the channel selector is set at position "1" referred to as the "west" channel. This channel is reserved for upbound vessels only and should not be changed once placed on board. The set will be removed at Lock 7.
4. *Downbound Vessels*: The lockmaster, Lock 7, will place a portable radio on all ocean vessels and on inland vessels in excess of 190 m in length. He will ensure that the channel selector is set at position "2" which will be referred to as the "east" channel. This channel is reserved for downbound vessels only and should not be changed once placed on board. The set will be removed at Lock 3.

NOTE: a) In order to avoid water damage to the radio set, it is necessary that during inclement weather the sets be kept in the *upright* position.

b) Whenever any difficulty is encountered in receiving/transmitting, etc., mariners are to inform the lockmaster concerned, providing details of the difficulty.

4. **Bridges (Canadian sectors)**

V.H.F. transceivers fitted with Channel 14 have been installed at the following bridges: Caughnawaga, St. Louis and Valleyfield in Sector #1 and Bridges 4, 5, 10, 11 and 21 on the Welland Canal. The use of these is limited to periods of reduced visibility and emergencies only. The radio call sign is the applicable bridge name or number, i.e.

"VALLEYFIELD BRIDGE, THIS IS VESSEL . . ." or "BRIDGE 10, THIS IS . . ."

To further assist traffic and enhance safety during periods of reduced visibility, radar has been fitted at the following bridges: St. Louis, Valleyfield, in Sector #1, and Bridges 4, 5, 10, 11 and 21 on the Welland Canal. At the Valleyfield and St. Louis Bridges, vertical markers are installed on the centre line of the mobile spans. At night, the markers are floodlit.

Bascule Bridges: Vessels with high raking counters, superstructures and/or flared bows which could overhang the top of lock walls when the vessel is not parallel to the wall must exercise extreme care in navigating past bascule bridges. Bascule bridges impose restrictions on vessel dimensions and, in this regard, specific reference is made to Seaway Regulation No. 3.

In case of a malfunction of the bridge or a power failure, the bridgemaster will display a red safety flare at the bridge and a vessel must not pass the limit of approach sign.

5. **Bridges — Signal Light System**

A system of navigation light signals and signs is in effect at all free-standing lift bridges in both the Montreal-Lake Ontario section and the Welland Canal.

The system includes:

a) A red and green bridge navigation light display on the moveable bridge span
b) A limit of approach sign (L/A) — (red background, white letters, diamond shape)
c) A caution sign equipped with amber lights (yellow-black checker board — triangular shape)
d) A whistle sign (yellow background — black lettering — square shape).

The operation of the system is as follows:

1. When the vessel's stem arrives at the WHISTLE sign the AMBER lights on the CAUTION sign start to flash. This acknowledges that the bridgemaster has seen the vessel and will commence the bridge operation.

   The master shall signal the bridge if he does not receive a FLASHING AMBER light at this time.

   NOTE: At this time, the RED BRIDGE NAVIGATION light will be displayed on the bridge span.
2. After the bridgemaster acknowledges the presence of the vessel at the WHISTLE sign, he will commence the bridge raising operation. When the bridge starts to rise, the RED BRIDGE NAVIGATION lights will commence flashing.
3. When the vessel's stem is abeam of the CAUTION sign and the GREEN BRIDGE NAVIGATION lights are displayed, the vessel is allowed to proceed through the bridge draw. If, however, the GREEN BRIDGE NAVIGATION lights are not displayed at the time the stem of the vessel is abeam of the CAUTION sign, the Master should take any action necessary to ensure that the vessel does not pass the L/A sign before the bridge span is fully raised and the GREEN BRIDGE NAVIGATION lights are displayed.

   NOTE: Under normal conditions the bridge span should be fully raised by the time the vessel reaches the CAUTION sign.

6. **Vessel Location Information**

a) MONTREAL-LAKE ONTARIO SECTION: The Regional Information Centre Montreal is responsible for providing to the public and shipping interests information relative to vessel movements within the Montreal-Lake Ontario section. The telephone number is (514) 866-1584.

b) WELLAND CANAL AREA: The Information Clerk is responsible for providing to the general public and shipping interests information relative to the location of vessels within the Canal system and the Canadian waters of Lake Ontario (west of Mid-Lake Ontario) and Lake Erie to Long Point. The telephone numbers for the Information Clerk are:

St. Catharines — (416) 688-6593 — Code-A-Phone (416) 688-6462
Welland Exchange — (416) 735-0541 — Code-A-Phone (416) 735-4052

7. **Marine Weather Broadcasting and Data Collection**

a) During the navigation season, general marine weather broadcasts will be routinely issued by the Canadian Coast Guard with the exception of the following American stations where the broadcasts will be issued by the Saint Lawrence Seaway Development Corporation at the times indicated:

Seaway Eisenhower — 0245 and every six hours thereafter
Seaway Clayton — 0245 and every six hours thereafter
Seaway Sodus — 0245 and every six hours thereafter

b) *Vessel Weather Data Stations*

Those vessels acting as weather data reporting stations may make use of the Seaway radio stations to relay data to meteorological centres, if Coast stations are not available. In addition, should further data be required in a given area, weather vessels in the area may be requested to gather and report such data.

c) Vessels encountering adverse weather or sailing conditions are urged to notify the appropriate Seaway Control Centre giving pertinent information. This information will in turn be broadcast to other vessels and relayed to the Meteorological Branch offices concerned.

8. **Use of VHF Radio**

The use of Seaway working frequencies as outlined in the Seaway Regulations is restricted to ship-to-shore (Vessel Traffic Management) communications. Ship-to-ship communications must be carried out on the designated VHF channels. Strict adherence to these regulations is required.

9. **Fog**

The incidence of fog is most prevalent in the American Narrows, CIP 9 (Richards Point) to Light 41, west end of mooring cells below Massena oil docks, St. Regis Island to Grasse River below Snell Lock; in the vicinity of the Valleyfield Bridge and in the upper reach of the Welland Canal.

In the American Narrows, navigation will be suspended when the visibility is one mile or less. High intensity strobe lights have been installed at the lower wall of Snell Lock and the upper wall at Eisenhower Lock to assist vessel masters in locating the wall in times of poor visibility.

In Canadian waters, navigation will be suspended by the Traffic Control Centre when visibility becomes insufficient to permit safe navigation. In general, navigation will be suspended when visibility falls to less than 1/4 M, except in the Beauharnois Canal where two-way navigation will be permitted until visibility falls to 3/4 M at which point navigation will be suspended.

In some locations, under certain conditions, one-way navigation will be permitted when visibility is between 1/4 M and 1/2 M. In these cases, vessels will be asked to participate by invitation only.

When fog is forecast, vessels may be assembled in anchorages or on approach walls or wharves to permit localized operation during the period when navigation is suspended elsewhere.

Variable intensity lighting is located along both sides of the South Shore Canal between St. Lambert Lock and Lake St. Louis and on the Welland Canal between Bridge 10 and Ramey's Bend at Port Colborne. A strobe light is located on the approach wall above the upper Beauharnois lock. This lighting will be adjusted under conditions of poor visibility by Authority personnel, or at the request of vessel masters.

10. **Wind**

When high winds prevail, or are forecasted, vessels are permitted to transit in accordance with established wind scales which take into account wind velocity and direction, vessel draft and exposed "sail area". The scales serve as guidelines in scheduling vessel traffic under adverse wind conditions.

NOTE: 1) When a vessel becomes windbound in a Traffic Sector, it is essential that it be moored or anchored in a location which does not prevent the safe manoeuvering of other vessels that are able and permitted to transit.

2) Under conditions of wind or fog vessels are normally not kept in lock chambers.

11. **Hogging**

During hot summer weather, the heat radiated by the sun causes expansion of the exposed deck area, while the lower plates which are submerged remain comparatively cool. The expansion of the upper deck results in a bending effect commonly known as "hogging". This "hogging", particularly in the case of vessels with a large expanse of open deck, may increase the "fore and aft" draft by as much as 13 cm and create an overdraft condition.

Masters, aware of this possibility, usually take the precaution of running water over the deck during the daytime in periods of extreme heat.

It is recommended that masters of vessels with a large expanse of open deck take the precaution mentioned above to prevent deck expansion and avoid delays while adjusting drafts.

12. **Approach Walls (Fendering)**

Approach walls are situated above and below all locks to assist vessels entering the locks and also for securing to wait their turn for the lock. Pneumatic fendering is provided at the south transition point below the Lower Beauharnois Lock and above the Upper Beauharnois Lock to facilitate vessel entries.

In the Welland Canal, pneumatic fender units are located at the east and west wall transition points immediately below Lock 7 to facilitate vessel entries and exits at this lock.

13. **Vessels with Bulbous Bows**

Certain lock approach walls are supported by timber or concrete piles. It has been found that extensive damage is occurring to this timber piling. It is reported that vessels with bulbous bows may be causing this damage when the angle of approach to the wall is too great. Mariners are therefore requested to keep the angle of approach as small as possible, consistent with the safety of the vessel, and to advise the nearest Seaway Radio Station immediately if they suspect the bulbous bow may have contacted the pilings of an approach wall.

14. **Meeting Areas**

Due to restricted channel width in the Welland Canal from Bridge 10 to Mile 11.3 (overhead power line crossing), only vessels with a combined beam of less than 30 m will be initially dispatched to meet in this area. Exceptions may arise when, for example, a downbound vessel finds herself close to Mile 11.3 while an upbound vessel, because of slow transit, is just through the draw of Bridge 11. Another exception is when the Masters of both upbound and downbound vessels request that they be permitted to meet.

Guard Gate Cut

Due to restricted channel width this area is a no meeting area.

Port Colborne Harbour

When vessels are dispatched to meet in Port Colborne Harbour, each vessel will be notified of the name, dimensions and load condition of the opposing vessel.

15. **Vessels Operating in Restricted Channels**

When using restricted channels vessels are subjected to certain conditions which are normally not found when transiting wide rivers, lakes or other water expanses. Of importance are the following conditions and Masters should take these into account when sailing in restricted channels:

a) Bank Suction
b) Vessel Meeting
c) Squat

a) BANK SUCTION — A vessel sailing in the proximity of one of the banks of a channel will experience bank suction forces which are caused by the asymmetrical flow of water around the vessel. The closer a vessel nears a bank the larger the bank suction forces become. It is therefore important that vessels do not get too close to any of the banks.

b) VESSEL MEETING — Hydrodynamic interaction will take place between two vessels meeting or passing each other, either going in the same direction or in opposite directions. The interaction forces and moments on the vessels will cause course deviation and yaw to occur.

It is important that vessels maintain adequate distance when passing or meeting. At present there is insufficient information to determine a "safe" separation distance based on ship size, speed, rudder activity, etc. However, it is considered that a separation of half the combined beam width of the vessels should provide a safe minimum distance.

c) SQUAT — A vessel moving through the water will generate pressure forces that will bring a reduction in the water level and cause the vessel to sink bodily in the water and change its trim. Generally, depending on initial trim, full bodied vessels trim down by the bow and slender vessels down by the stern.

Squat increases proportionally with the length of the vessel and with the square of the forward speed.

In general, the speed limits which have been established in Seaway waters take into account squat conditions. Apart from other considerations, it is therefore important that vessels operate within the established speed limits.

16. **Hydraulic Assists (Canadian locks)**

a) *Longitudinal Hydraulic Assist*

The longitudinal hydraulic assist is designed to help downbound vessels exiting a lock. This feature provides the inclusion of water into the upper end of the lock at a predetermined time during the exit manoeuvre.

This assist is provided for vessels with a submerged (wet) cross-sectional area in excess of 148 m^2. Presently, this feature is available at Locks 1, 2, 3, 7 and 8 on the Welland Canal.

b) *Lateral Hydraulic Assist and Prefill Operation*

These assists are designed to help upbound vessels entering and securing in a lock. This feature provides the inclusion of water from one or two sides of the lock at a predetermined time during the entry manoeuvre.

The lateral assist is provided for vessels with a beam less than 20 m and is limited to single lockages excluding yachts and small tugs.

The prefill assist is given to vessels less than 200 m in length provided the vessel has at least two (2) mooring lines secured. The prefill is limited to single lockages excluding yachts and small tugs.

These features are presently available at Locks 1, 3 and 7 on the Welland Canal.

c) *Pre-Dump Operation*

The pre-dump operation is designed to reduce the dumping time of a lock. This procedure provides for the operation of the discharge valves before the vessel is completely secured.

The pre-dump operation is provided for all vessels 180 m in overall length or under, exclusive of pleasure craft.

The pre-dump operation is available on the Welland Canal, at Locks 1, 2, 3 and 7.

17. **(Reserved)**

18. **Walk-through Procedures (Lock 8 Welland Canal)**

When water conditions at the lock permit, a walk-through procedure will be used at Lock 8, Welland Canal.

With this procedure, a vessel passing through the lock will not be required to secure in the lock but will proceed under her own power at a speed consistent with safety.

The vessel's mooring lines will be carried by the lock personnel as the vessel proceeds through the lock. The vessel should be prepared to moor if necessary.

The walk-through procedure is designed to reduce vessel transit times.

Downbound vessels with drafts of 79 dm or more will not be afforded the walk-through procedure.

19. **Water Level Information (Tele-Announcers)**

Tele-announcers are installed at various locations. Water level information can be obtained from these locations by dialing:

St. Lambert Lock — Upper End	1-514-672-7532 (French)
Cote Ste. Catherine Lock — Upper End	1-514-632-0706 (French)
Lower Beauharnois Lock — Lower End	1-514-429-6311 (French)
Upper Beauharnois Lock	1-514-429-3401 (French)
Valleyfield Bridge	1-514-371-2474 (French)
Summerstown	1-613-931-2089 (English)
Morrisburg	1-613-543-3361 (English)
Iroquois Lock — Upper End	1-613-652-4426 (English)
Port Weller	1-416-688-3818 (English)
Port Colborne	1-416-835-2501 (English)

The telephone will ring briefly and an announcement will be heard as follows:

Where the French language is used:

"Service Automatique d'Information Niveau de l'eau en centimètres, chiffre, chiffre, chiffre — Zéro des cartes est 100 centimètres. Fin du message."

Where the English language is used:

"Automatic Announcing Service Water level is centimetres, digit, digit, digit. Chart datum is 100 centimetres. End of announcement."

In order to obtain the water level in feet, a conversion must be performed. All conversions are in reference to chart datum.

The reference datum for the above locations are as follows:

	FEET	METRES
St. Lambert upper	34.7	10.58
Cote Ste. Catherine upper	66.3	20.21
Lower Beauharnois — lower end	66.3	20.21
Upper Beauharnois — upper end	146.3	44.59
Valleyfield Bridge	149.7	45.63
Summerstown	151.40	46.15
Morrisburg	238.7	72.76
Iroquois Lock — upper	239.9	73.12
Port Weller	242.8	74.01
Port Colborne	568.6	173.31

EXAMPLE: Iroquois 206 (digit, digit, digit)

206 cm (reading)

−100 cm (chart datum = 100 cm)

106 cm = 1.06 metre

Datum Iroquois = + 73.12 m

Water Level = 73.12 m + 1.06 m = 74.18 m IGLD

OR

1.06 m = 3.477 feet (1.06 × 3.28)

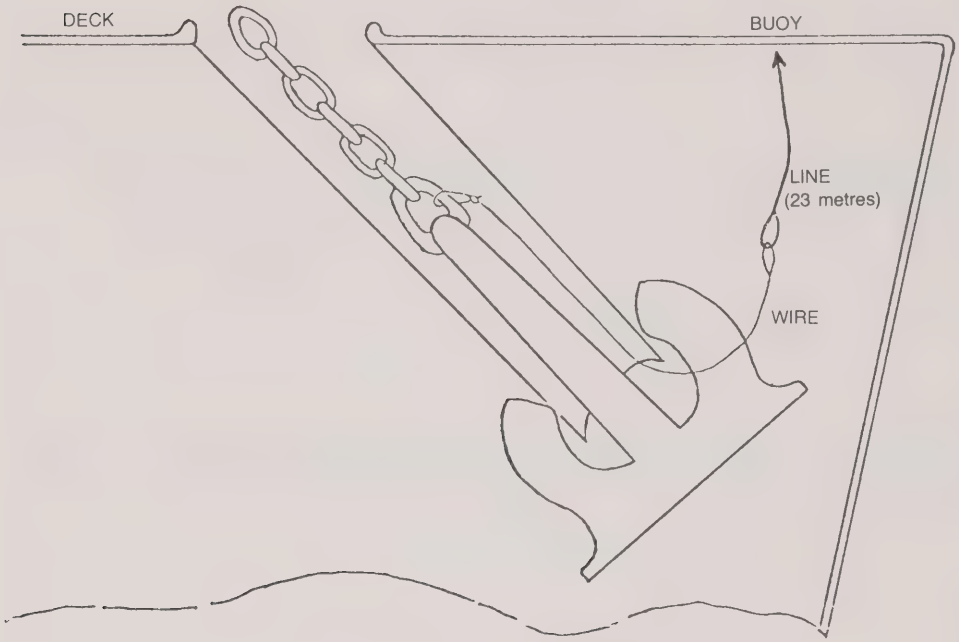
Datum Iroquois = + 239.9 feet

Water Level = 239.9 + 3.477 = 243.377 feet IGLD

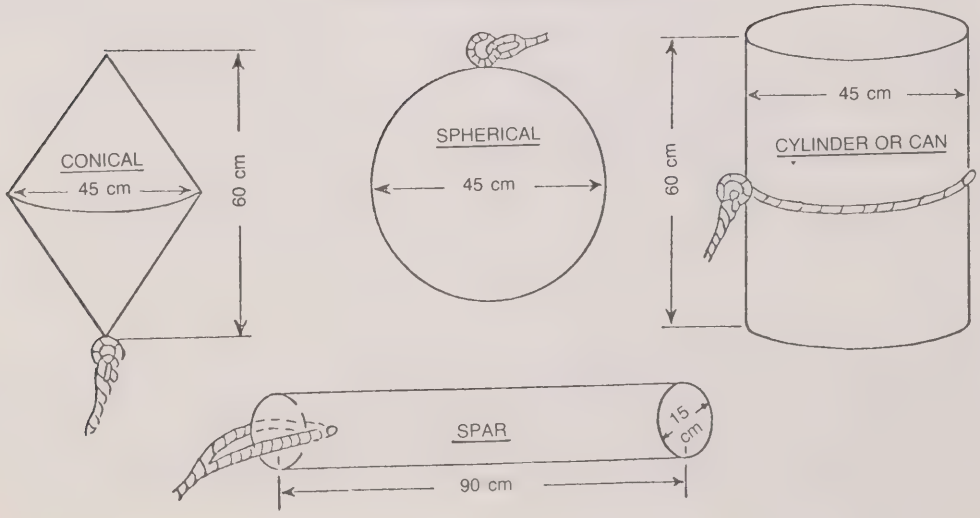
20. Anchor Marking Buoys

Seaway Regulation 14 requires the installation of an orange coloured anchor marking buoy. Typical acceptable buoys are shown in the following sketch, together with a rigging arrangement.

ANCHOR BUOY RIGGING



TYPICAL ANCHOR BUOYS

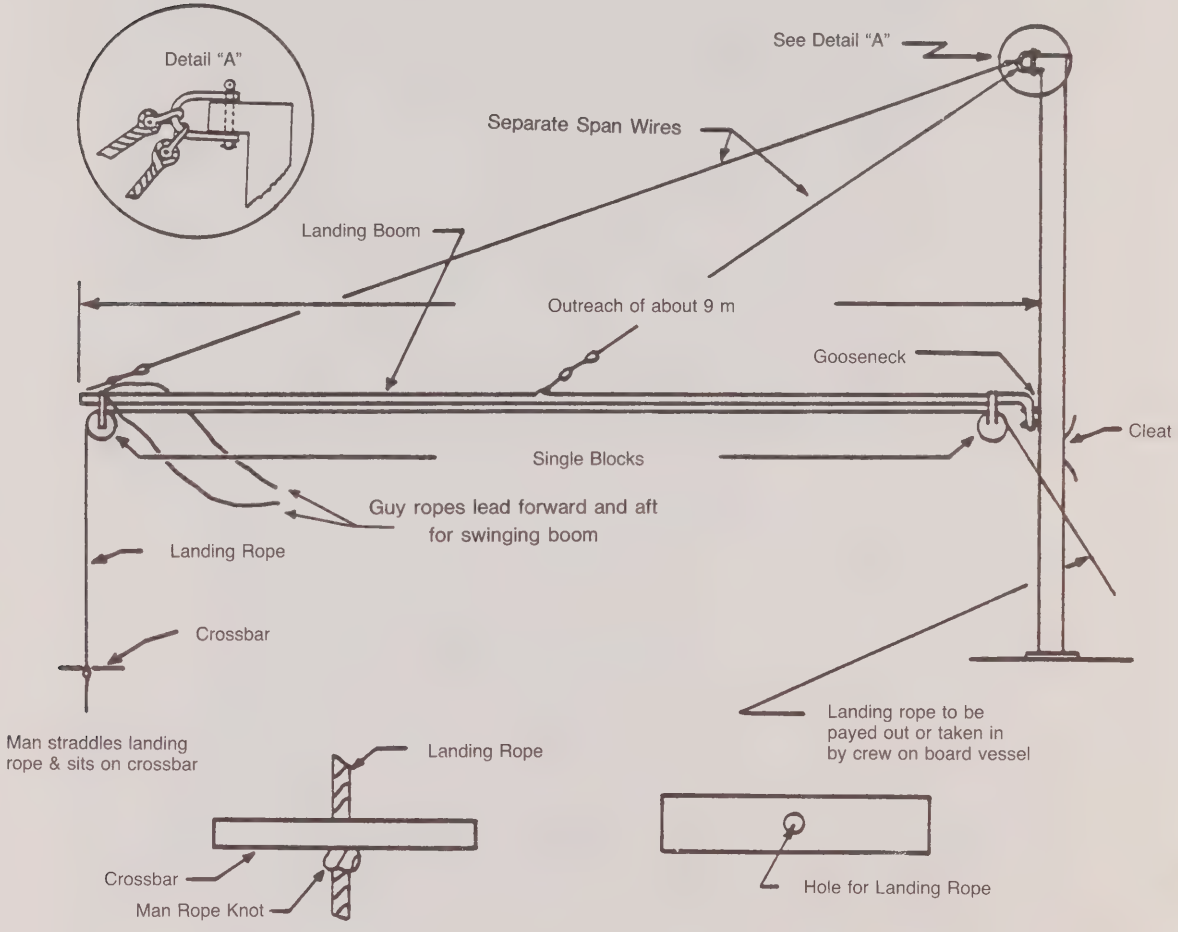


NOTE: The stowing of the anchor buoy in the hawse pipe is also acceptable.

21. **Landing Booms**

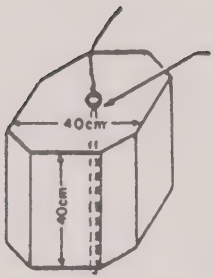
Seaway Regulation 8 requires vessels of more than 50 m in overall length to be equipped with at least one landing boom on each side. A general arrangement of the rigging of the landing boom is provided in the following sketch.

RIGGING OF LANDING BOOM



It is important that the landing boom be maintained in good working condition because the lives of the crew members being landed may depend on such maintenance. It is suggested that prior to the first transit of each season, and at intervals of not more than three months, the boom goosenecks be lifted, cleaned and greased, shackles checked for wear, greased and tightened, spans, guys and landing ropes checked for deterioration and broken strands. Any doubtful items of equipment should be renewed immediately.

On completion of any new installation or the completion of each overhaul, the boom should be test swung with an adequate static load to ensure the integrity of all working parts. It is recommended that a timber safety block, with sufficient length of line for it to be lowered to the waterline at light draft, be stowed in close proximity to each boom, ready for immediate use.



Safety Block

22. **Embarking or Disembarking in Lock Chambers**

It is important that safe working practices are followed for embarking or disembarking in Seaway locks. This should only be carried out when the vessel is right alongside the lock wall and completely stopped. Crew members must not board or land from the vessel between the two forward or the two after lines. Furthermore, they should not step over the mooring lines.

If there is a difference in height between the deck of the vessel and the lock wall, a ladder should be used and a crew member should assist the person boarding or disembarking. At no time should one attempt to disembark by jumping from the ship.

23. **Bulwark Ladders**

For the safety of persons using bulwark ladders to board or disembark from a vessel, Masters must assure that such ladders are secure. Hand-hold stanchions which do not form part of the ladder must be secured rigidly to the bulwark or the ship's rail. In cases where the stanchions and/or hand rails do form part of the ladder, the ladder itself must be secured firmly to the ship's structure.

24. **Use of Portable Fenders**

While the use of permanent fendering is advocated by the Seaway entities, the use of portable fenders is allowed provided they meet the requirements as outlined in the applicable Regulation. Masters should note, however, that the success of the use of portable fenders depends on their careful attendance while entering and leaving a lock, as well as during the actual lockage operation.

25. **Navigational Aid Deficiencies**

Navigational aid deficiencies in the Canadian waters of the Seaway can be reported to the Seaway Traffic Control Centres for transmission to the appropriate Coast Guard Traffic Centre.

NAVIGATION SIGNAL LIGHT SYSTEM
(Canadian locks)

1. General

A signal light system is provided at the approaches to all Canadian locks to inform the vessel master of the situation in the lock as he approaches it. The system consists of a navigation signal light panel preceded by up to three limit of approach (L/A) signs located along the approach wall at each end of the lock, as shown in Figure 1.

The operating sequence is uniform throughout the system and is detailed in the following paragraphs. However, the number of L/A's and the distances between them are subject to variations due to differences in configuration of lock approaches.

In the Welland Canal, a L/A sign with signal lights similar to those at the locks is installed above and below the Guard Gate cut. These lights are operated from the Control Centre.

Figure 1

2. L/A Signs

The L/A signs are intended as an aid to the vessel master in approaching a lock as promptly as possible. Their operation is as follows:

(a) *Limit of Approach No. 3*

The L/A signs are equipped with red navigation lights only, and are used:

(i) as a distance marker only by a vessel making a passing entry manoeuvre;

(ii) as a mooring L/A for modified passing entry manoeuvre.

(b) *Limit of Approach No. 2*

The L/A signs are equipped with red navigation lights only, and are used:

(i) by a vessel waiting for the first stage of a dump or fill during a turnback lockage at locks where turbulence above or below the gates exists – see 'Turnback Lockages – General'.

(ii) as a distance marker only by two vessels executing a passing entry manoeuvre; (See Vessel Manoeuvres)

(iii) by a moored vessel waiting for an outbound to pass, when a passing entry is not possible.

(c) *Limit of Approach No. 1*

The L/A signs are equipped with red and green navigation lights, and are used:

(i) as a distance marker by a vessel for which the lock is being turned back (final stage of dump or fill);

(ii) as a mooring position at certain locks when the lock is being turned back in favour of the vessel. (See Turnback Lockages).

(iii) to indicate that the last piece of equipment at that end of the lock has started to open (lock gates, bridge or ship arrester as applicable) when the L/A 1 red lights start to flash.

The RED LIGHTS on the limit of approach (L/A) signs have two characteristics: Fixed or Flashing.

Under no circumstances should a vessel pass an L/A sign displaying a RED SIGNAL.

In addition, a flashing L/A sign indicates that the lock is being readied and the vessel should:

(i) continue to approach, with caution, as it will be able to pass this L/A soon;

OR

(ii) be prepared to cast off and move ahead to the next L/A sign displaying the navigation signal.

N.B. The flashing signal is used when an "opposing" vessel is departing from a lock, and also to indicate a lock is turning back for you.

NOTE: In the pool between the Upper and Lower Beauharnois Locks, an L/A and a light standard bearing twin red and green navigation lights only are located at each end of the pool to warn the vessel master of the lock condition. The signal lights on the standard operate as follows:

(i) Fixed Red — "Do not pass this L/A"

(ii) Flashing Red — "Gates will open shortly"

(iii) Green — "Lock is ready for you"

3. **Lock Signal Light Panels**

Lock signal light panels are prominently displayed at the end of each lock to assist vessel masters in timing their vessel movements for an optimum speed of entry. However, because of inherent limitations, no signal panels have been installed on the ends facing the pool between the Upper and Lower Beauharnois Locks and between the flight locks (Locks 4, 5 and 6) on the Welland Canal.

The purpose of the lock signal light panel is to indicate to an approaching vessel the state of readiness of the lock. The mode of operation of the lights indicates the dumping or filling of the lock, whether one or more vessel(s) is in the lock and whether the approaching vessel will be handled next or held at the wall while the lock is turned back against it.

4. **Operation of Signal Light Panels**

a) *Red Lights*

The RED LIGHTS operate in conjunction with the associated limit of approach light system and have identical characteristics, namely:

i) Fixed red — "lock is occupied, do not pass illuminated L/A"

ii) Red flashing together — "lock is occupied by one vessel, do not pass illuminated L/A, but stand by to move into lock when outbound vessel has passed you"
OR
"lock is turning back for you, do not pass illuminated L/A but stand by to move into lock"

iii) Red flashing alternately — "lock is occupied by more than one vessel, do not pass illuminated L/A but stand by to move into lock when outbound vessels have passed you".

NOTE:
L/A I will start to flash only after the last piece of equipment at that end of the lock starts to open (bridge, gates or ship arrester).

b) *Amber Lights*

Each illuminated AMBER LIGHT indicates two minutes of time while each flashing amber light indicates one minute of time. The lights will go out in sequence, starting from the top of the panel, with the last amber light being extinguished when the end of the lock becomes fully open (See figure 2).

Upbound vessels will observe that, during the dump of a lock, the amber lights on the lower end navigation signal light panel operate as follows:

- at the beginning of dump, the appropriate number of amber lights turn on,
- at end of first minute, uppermost amber light begins flashing,
- at end of second minute, first amber light is extinguished,
- at end of third minute, second amber light begins flashing,
- at end of fourth minute, second amber light is extinguished,
- and so on, until the lower end of the lock is fully open, at which time the bottom amber light is extinguished.

Downbound vessels will observe that

- During the fill of a lock, the amber lights on the upper end navigation signal light panel operate in the same manner as for upbound vessels;
- By counting the illuminated amber lights, it is therefore possible to determine time until the lock is fully open in minutes, e.g. two fixed amber and one flashing amber indicate "five minutes until the upper end of the lock is fully open".

(c) *Green Lights*

GREEN navigation lights work in conjunction with the green lights on L/A 1 and their only characteristic is:

Fixed green — "lock is ready for you — enter as promptly as possible".

— SHIP IN LOCK
— DUMPING IN PROGRESS
— 7 MINUTES TO GO

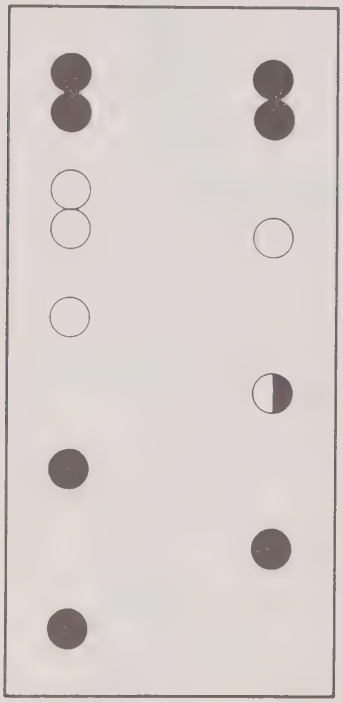


Figure 2

VESSEL MANOEUVRES
(Canadian locks)

1. General

Two prime factors in providing efficient vessel transits are the reduction of "dead time" at a lock, which is that period between the exit of one vessel from a lock and the entry of another, and the elimination of the need to tie up at the approach walls. With the increase in traffic, new Control Centre facilities and procedures, and additional aids to navigation, it is desired to make much greater use of the "passing entry" procedures as described hereunder, when two vessels meet immediately outside a lock and when weather conditions permit.

2. **Passing Entry**

Ideally, to execute the "passing entry" the vessel approaching the lock should be 450 m to 915 m from the end of the approach wall when the lock starts to dump or fill. This distance allows for variations in vessel speed. At this point, the navigation lights and L/A 3 are fixed red. The amber lights come on with the start of the dump or fill. (Figure 3)

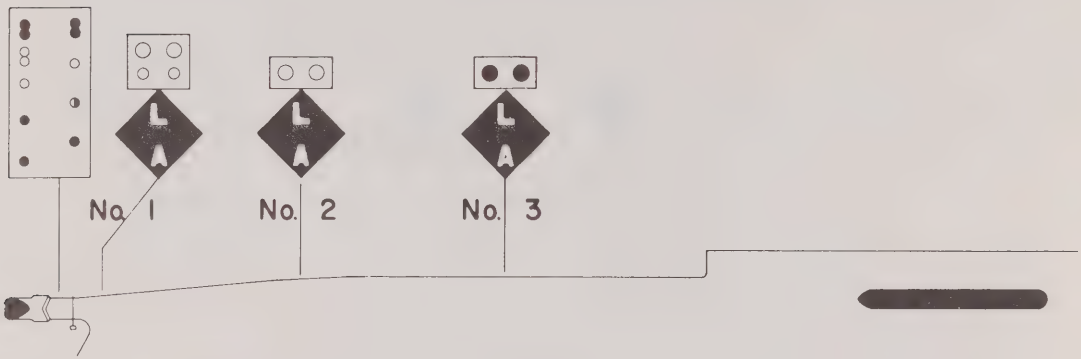


Figure 3

When the lock gates open, the navigation lights on L/A 3 begin to flash. As the vessel in the lock casts off, L/A 3 is extinguished and L/A 2 starts to flash. At this time, the inbound vessel should be at the end of the approach wall.

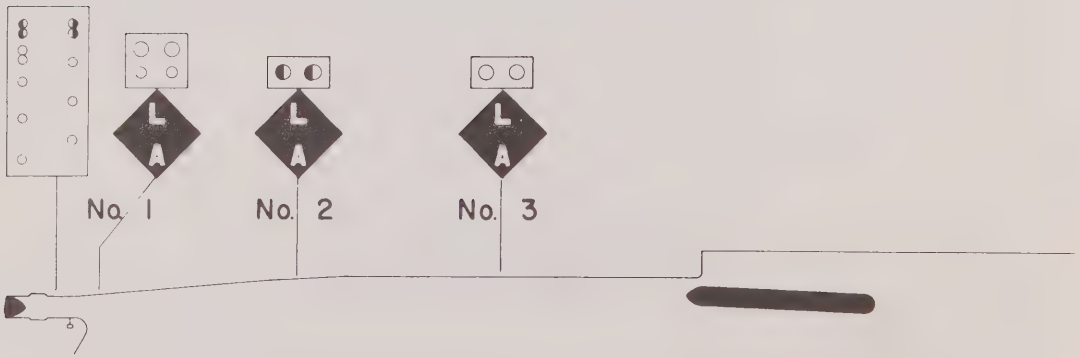


Figure 4

As the stern of the last outbound vessel clears the lock, L / A 2 is extinguished and the green lights are shown on the Navigation Panel and L / A 1. The bow of the inbound vessel should be at L / A 3 at this time. (Figure 5)

(See variation below, when a road bridge is involved)

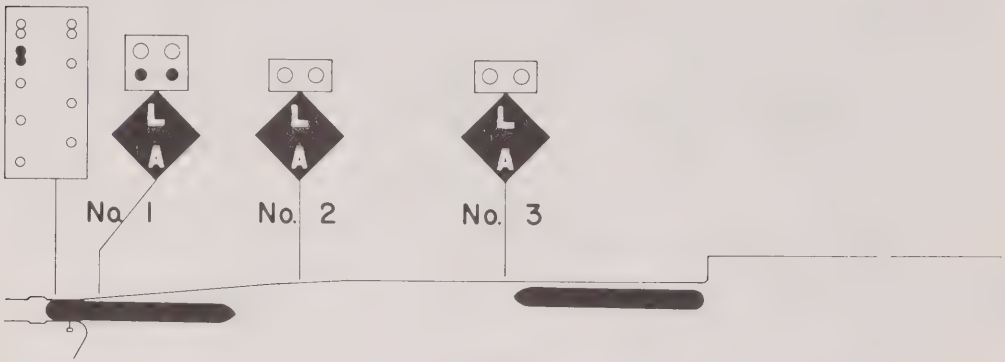


Figure 5

As the vessels continue to approach each other, the ideal meeting point is when the bow of the inbound and the stern of the outbound are abeam of L. A 2. (Figure 6)

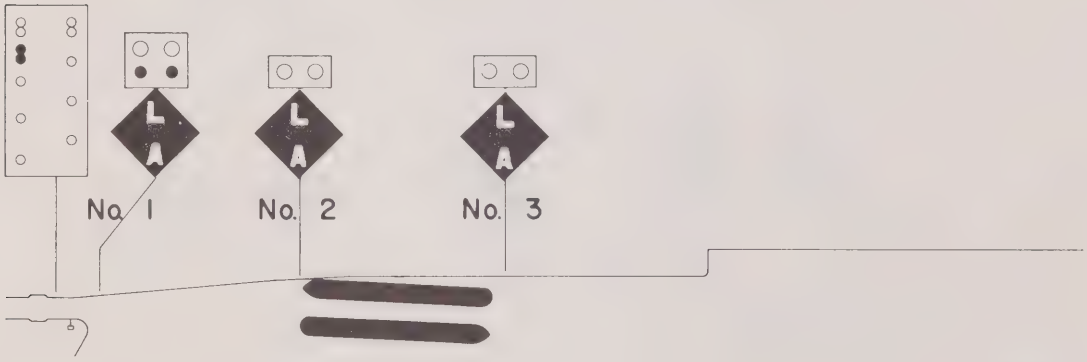


Figure 6

Experience, confirmed by theoretical calculation, proves that the inbound vessel moving along a wall faces much less suction from the outbound than it does if moored at the wall.

When the vessels have passed each other, the inbound vessel continues into the lock as smartly as is prudent and possible.

3. **Modified Passing Entry**

In cases where a vessel is obviously going to reach a wall well in advance of the outbound vessel leaving the lock, the inbound vessel will moor at L/A 3.

When the current lockage has completed its dump or fill and the end of the lock is completely open, the red navigation lights and the L/A 3 begin flashing and the inbound vessel prepares to cast off, the outbound vessel at this time will be casting off and moving out of the lock.

Immediately upon completion of the outbound vessel casting off (i.e. the last vessel in the case of a tandem lockage) the L/A 3 flashing lights will be extinguished and the L/A 2 flashing lights will come on.

The inbound vessel should then commence entry to ensure having its bow abeam of L/A 2 at the same time as the stern of the outbound vessel is abeam this point.

NOTE: The green lights on L/A 1 and the lock navigation lights will be given when the stern of the last outbound vessel has cleared the lock chamber.

4. **Passing Entry Where a Road Bridge Crosses Over One End of a Lock**

When the bridge remains up between exit and entry of vessels, the sequence will be as described above for the Passing Entry. However, when it becomes necessary to lower the bridge between the times of exit and entry, the sequence is modified as follows:

As the lock fills or dumps, the outer L/A and navigation lights are fixed red with the time remaining indicated by the amber lights. The approaching vessel is then at some distance from the L/A 3 as shown in Figure 7.

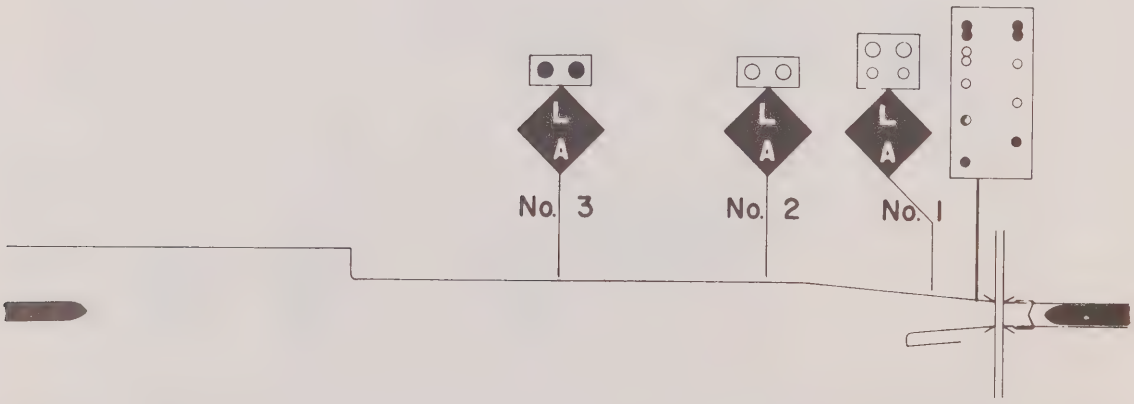


Figure 7

When the lock gates open, the navigation lights and L/A 3 begin to flash. As the vessel in the lock casts off, L/A 3 is extinguished and L/A 2 starts to flash, which indicates that the inbound vessel shall prepare to proceed to L/A 1, or stand by to cast off and move along the wall. (Figure 8)

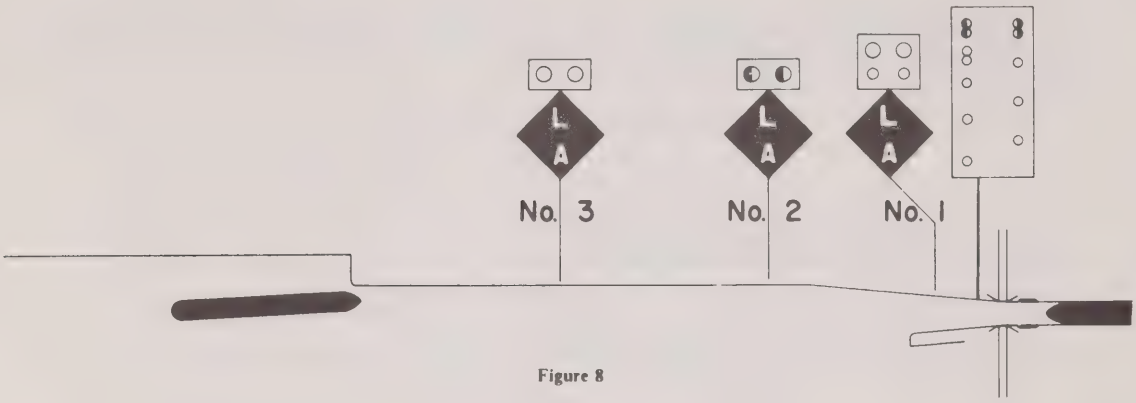


Figure 8

As the bridge is lowering behind the outbound vessel. L/A 2 is extinguished, L/A 1 commences flashing red and goes to steady red once the bridge is fully lowered, indicating that the vessel may approach but not pass this point. (Figure 9).

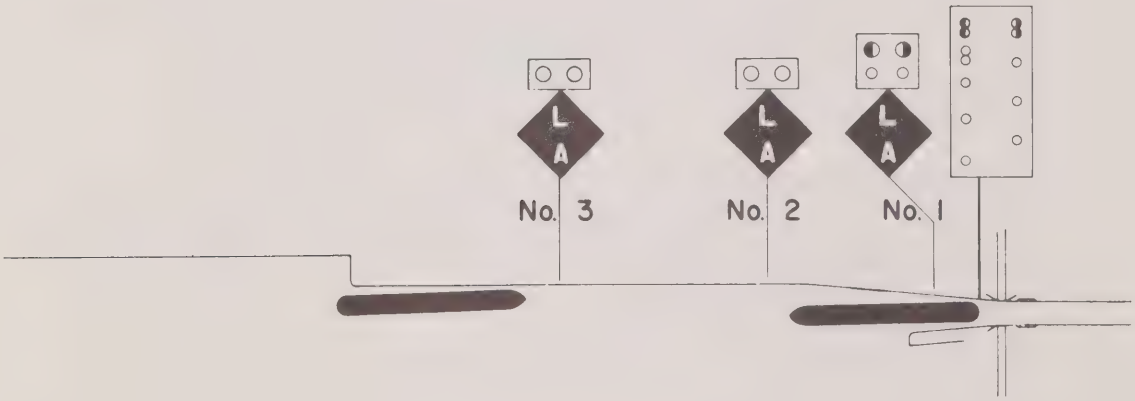


Figure 9

TURNBACK LOCKAGE
(Canadian Locks)

1. **General**

In the execution of turnback lockages where water turbulence is a problem in the vicinity of lock gates, provisions have been made for the automatic transfer of flashing red lights from L/A 2 to steady red lights on L/A 1 as follows:

Eastern Section:	Upper end—	3 minutes before upper end opens
	Lower end—	6 minutes before lower end opens
Western Section:	Lower end—	5 minutes before lower end opens

This automatic transfer serves to prevent a vessel approaching too close to the lock gates until the turbulence has subsided to an acceptable level.

2. **Turnback for Upbound Vessels**

The above features have been provided for upbound vessels at the following locations:

a) St. Lambert Lock
b) Cote Ste. Catherine Lock
c) Lower Beauharnois Lock
d) Lock 1 - Welland Canal
e) Lock 2 - Welland Canal
f) Lock 3 - Welland Canal
g) Lock 4 - Welland Canal

NOTE: 1) At Lock 4, the automatic transfer takes place nine (9) minutes before gates open.
2) At St. Lambert Lock, the automatic transfer takes place four (4) minutes before gates open.

At these locations, masters may observe the following prior to a turnback:

a) Red flashing navigation lights — "will turn back for you".
b) Red fixed on L/A 2 — "dump not started, do not pass this L/A"

c) Six (6) minutes (Eastern Section) or five (5) minutes (Western section) before gates are fully opened, the following is observed: red navigation lights continue flashing, amber lights are operating and steady red signals on L/A 1 are displayed. L/A 1 will start to flash when the last piece of equipment at that end of the lock starts to open (lock gates, bridge or ship arrester as applicable).

d) When lock is fully opened:
— the navigation lights and L/A 1 show fixed green,
— "the lock is ready for you, enter as promptly as possible".

3. **Turnback For Downbound Vessels**

The automatic transfer of red flashing lights (3 minutes before gates open) from L/A 2 to L/A 1 has been provided at the following locations:

a) St. Lambert Lock
b) Cote Ste. Catherine Lock
c) Upper Beauharnois Lock

The display of lights to waiting vessels is the same as that described in the preceding paragraph for upbound vessels except for the difference in timing.

At all other locations when the lock is being turned back to receive the inbound vessel, the following is observed: —

a) Lock navigation signal lights and the signals on L/A 1 display flashing red and, during the dump or fill, the amber lights are operating.

b) Since the vessel is already at the nearest L/A to the lock and turbulence does not cause any problem, no move is necessary until the lock is fully open, when the navigation and L/A signal lights show fixed green.

MOORING VESSELS
(Canadian Locks)

1. **Safety Precautions**

To prevent accidents on lock walls, especially those that could be caused by parting mooring wires, Seaway linesmen have been trained in the safe handling of mooring wires and in the proper hand signals to be used when working with vessel crews.

At all Canadian locks the standard hand signals as shown hereunder will be used during the vessel mooring operation.

STOP

EMERGENCY STOP

SLACK

Safety Rules:
1. Always slack mooring wires as required.
2. Avoid giving too much slack.

HEAVE

Safety Rules:
1. Never heave on a mooring wire until the lock crew member gives the hand signal.
2. For their *own safety,* the lock crew members will always get well clear of mooring wire before giving signal to heave.
3. *Always* use *slow speed* to heave up wire when slack.

2. **Handlines**

A downbound vessel will secure the handline to the eye at the end of the mooring line by means of a *bowline*.

Handlines shall be passed to upbound vessels by the linesmen and vessels will secure the handline by means of a *clove hitch* 0.6 m behind the splice of the eye.

Up and downbound vessels at Iroquois Lock and at Lock 8, Welland Canal, shall use their own handlines secured to the eye at the end of the mooring lines.

Upbound vessels in Locks 4 and 5, Welland Canal, which are in excess of 218 m are to secure the handline *in the eye* of the No. 1 mooring wire by means of a *bowline*.

3. **Vessel Mooring Locations**

The vessel mooring locations at Canadian locks in the Seaway system have been standardized as much as possible.

The following table shows the appropriate position of the vessel's stem in the lock for each vessel length category.

Vessel Length	*Vessel Mooring Position (Stem at Lock Wall Marker)*
211.00 m — 222.5 m (692′ — 730′)	"stop" marker
202.00 m — 210.99 m (663′ — 692′)	5 m marker
185.00 m — 201.99 m (607′ — 663′)	10 m marker
145.00 m — 184.99 m (476′ — 607′)	25 m marker
105.00 m — 144.99 m (344′ — 476′)	50 m marker
Less than 105.00 m (less than 344′)	75 m marker

Mooring positions are the same for upbound and downbound lockages.

Exceptions:

The table *does not* apply

(1) at Lock 8, Welland Canal

(2) at Lock 6 – West — Welland Canal for upbound lockages

(3) multiple lockages at all locks.

For these exceptions vessels will be moored as directed by the lockmaster.

1. NAVIGATION SIGNAL LIGHT SYSTEM

Lock Traffic Lights:

The upstream lock traffic light panels at both the Snell and Eisenhower Locks are located on forty-foot towers on the guide wall near the upstream control buildings.

The downstream lock traffic light panels at both locks are located on the face of the concrete wall immediately below the downstream control buildings. These lights operate as follows: (Figure 10)

SOLID RED	—	Stop; lock not ready for vessel.
FLASHING RED	—	Lock is being prepared for vessel.
GREEN	—	When lock is clear, proceed. Lock is ready for entry.

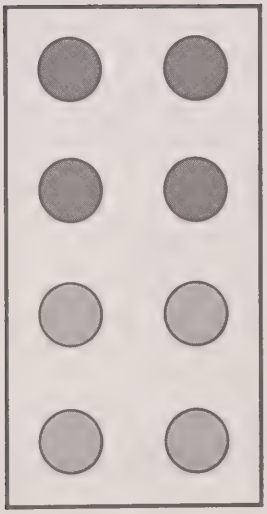


Figure 10

2. TIE-UP WALLS

a) *Length of Lock Walls*

Eisenhower Lock:

Upstream Wall — Heading 268° - 088° true

L/A 1 to end of wall ..... 383 m

L/A 2 to end of wall ..... 329 m

Downstream Wall — Heading 253° - 073° true

L/A 1 to end of wall ..... 275 m

L/A 2 to end of wall ..... 222 m

Snell Lock:

Upstream Wall — Heading 269° - 089° true

L/A 1 to end of wall ..... 265 m

L/A 2 to end of wall ..... 212 m

Downstream Wall — Heading 251° - 071° true

L/A 1 to end of wall ..... 505 m

L/A 2 to end of wall ..... 449 m

b) *Berthing Stations*

There are eight (8) berthing stations located on the upper and lower tie-up walls at each American lock. Berthing markers are numbered B-1 through B-8 and each marker shows the distance from the face of the guide (tie-up) wall to tangent line of lock chamber face. A limit of approach sign (L/A 1) is located at B-3, and vessels with a maximum beam of 15.2 m or less tie up from this berth back. The L/A 2 sign is located at B-5, and vessels with a maximum beam of 23.1 m or less tie up from this berth back. (Save for the location of the traffic light panel, Figure 11 below applies to both the upstream and downstream approaches of the two American locks).

c) *Lock Gate Assembly Area*

Construction of a new lock gate assembly area at the end of the downstream guide wall at Eisenhower Lock was completed during 1982. Construction of this facility enables the emergency assembly and later installation of spare downstream gate leaves at Eisenhower Lock in the event that the installed lock gate leaves are severely damaged. Components of the new facility include a slip, bulkhead wall, two (2) assembly towers and pads and a steel sheet pile cell at the end of the existing downstream guide wall. Vessel masters and pilots are advised to approach the downstream guide wall with caution to avoid entering the slip area.

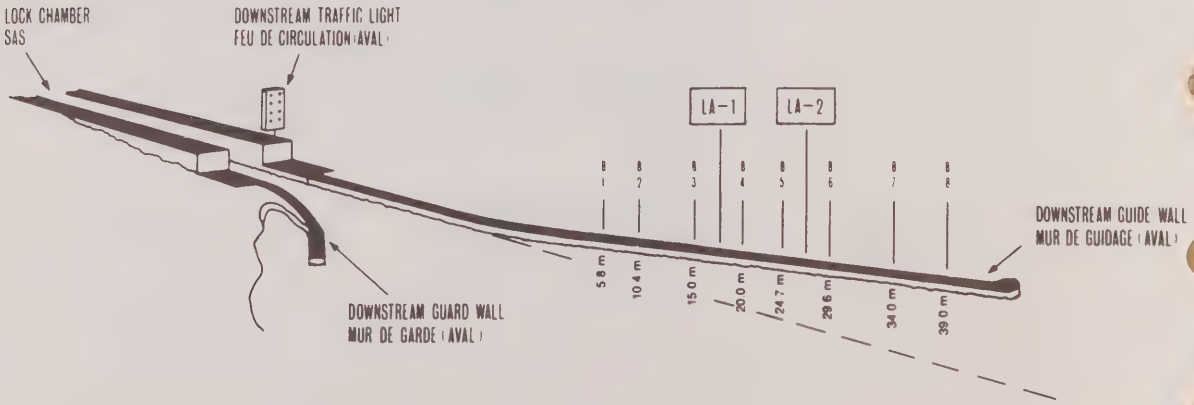


Figure 11

APPENDIX 1

SEAWAY MILEAGES TO PRINCIPAL LOCATIONS

Appendix I indicates distances from the origin of the Seaway to Long Point, on Lake Erie, broken down as follows:

— Montreal-Lake Ontario Section (Origin of Seaway to Cape Vincent)
— Lake Ontario (Cape Vincent to Breakwater, Port Weller)
— Welland Canal (Breakwater, Port Weller, to Long Point).

Distances are expressed in nautical miles

MONTREAL-LAKE ONTARIO SECTION

MILE (nautical)	*LOCATION*
0.0	Origin of Seaway - across from Laurier Pier, Montreal Harbour
0.8	CIP 2
2.8	St. Lambert Lock
10.3	Cote Ste. Catherine Lock
14.6	Caughnawaga Bridge
27.5	Lower Beauharnois Lock
28.4	Upper Beauharnois Lock
33.8	St. Louis Bridge
38.8	Valleyfield Bridge
72.4	Snell Lock
75.6	Eisenhower Lock
97.9	Iroquois Lock
161.2	Cape Vincent

LAKE ONTARIO

	MILEAGE (Nautical Miles)	
	Upbound	*Downbound*
Cape Vincent		
Sodus Point	41.1	43.0
Mid Lake Ontario	27.7	28.7
Newcastle	33.6	32.9
Breakwater, Port Weller	37.5	35.8
TOTAL	139.9	140.4

WELLAND CANAL

MILE (nautical)	*LOCATION*
0.0	Breakwater at Port Weller
1.7	Lock 1
3.2	Lock 2
4.9	Bridge 4
5.5	Lock 3
6.8	Locks 4, 5, 6
7.5	Lock 7
8.3	Guard Gate Cut
9.2	Bridge 10
10.4	Bridge 11
21.8	Lock 8
22.4	Bridge 20
22.5	Bridge 21
23.5	Breakwater at Port Colborne
26.1	CIP 16

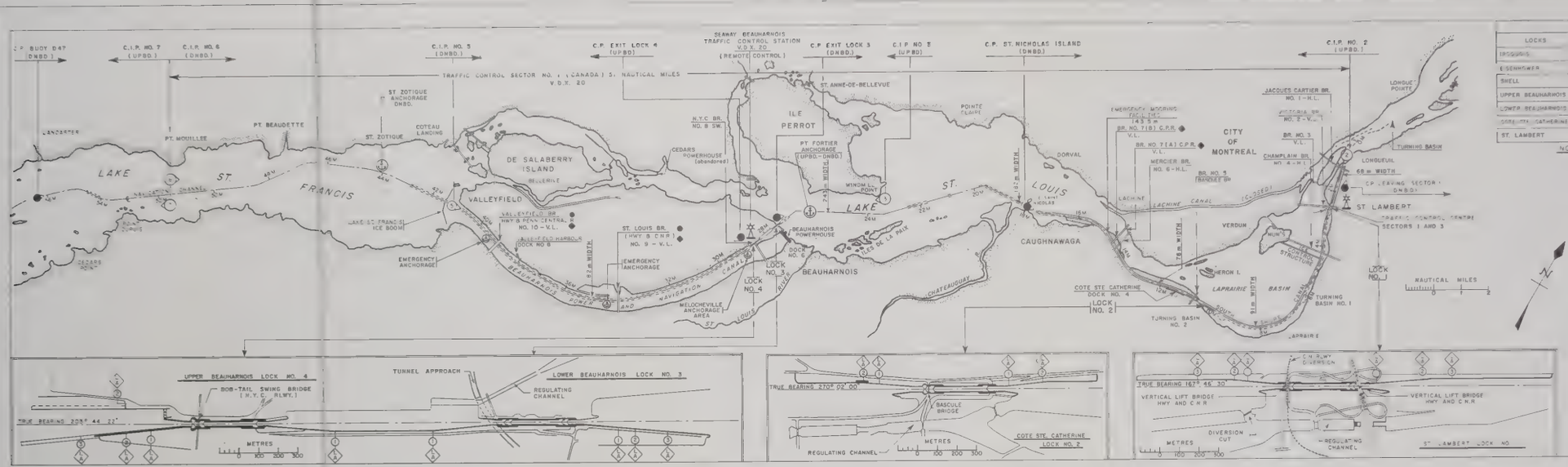
Distance between CIP 16 and Long Point — Upbound 38.2
— Downbound 39.1

APPENDIX 2

TABLE OF TRUE ORIENTATION — canal locks

The table indicates true bearings of locks in the St. Lawrence Seaway for vessels proceeding upbound.

Montreal-Lake Ontario		**Welland**	
St. Lambert Lock	167° 46′ 30″	Lock 1	164° 23′ 00″
Cote Ste. Catherine Lock	270° 02′ 00″	Lock 2	156° 26′ 00″
Upper and Lower Beauharnois Locks	203° 44′ 22″	Lock 3	174° 25′ 30″
Snell Lock	260° 18′ 55″	Locks 4, 5 & 6	183° 10′ 30″
Eisenhower Lock	260° 18′ 55″	Lock 7	190° 08′ 46″
Iroquois Lock	205° 49′ 00″	Lock 8	189° 50′ 32″



LOCK DATA

LOCKS	NORMAL LIFT m	USABLE LENGTH m	WIDTH OF CHAMBER m	LENGTH-L/G 2 TO END OF WALL UPPER ENT. m	LOWER ENT. m
IROQUOIS	0 - 2	222.50	24.38	670.5	736.0
EISENHOWER	2 - 3	222.50	24.38	329.5	210.0
SNELL	14 - 15	222.50	24.38	670.5	449.5
UPPER BEAUHARNOIS	11 - 12	222.50	24.38	575.5	503.0
LOWER BEAUHARNOIS	12 - 13	222.50	24.38	503.0	379.0
STE. CATHERINE	10 - 11	222.50	24.38	518.0	319.0
ST. LAMBERT	4 - 6	222.50	24.38	458.0	653.5

NOTE - MINIMUM DEPTHS ON LOCK GATE SILLS ----- 9 m
CONTROLLING CHANNEL DEPTHS ------ 8.25 m.
MILEAGES ALONG ℄ OF SAILING COURSE SHOWN THUS 5.4
ZERO MILEAGE TAKEN AT INTERSECTION OF SEAWAY CHANNEL ℄ AND SHIP CHANNEL IN THE PORT DE MONTREAL
ALL LOCKS ARE EQUIPPED WITH SURVEILLANCE T.V.

LEGEND

- H.W. - HIGH LEVEL
- V. - VERTICAL LIFT
- SW. - SWING
- BRIDGE EQUIPPED WITH RADAR
- V.H.F. RADIO
- LIMIT OF APPROACH SIGN
- TRAFFIC CONTROL STATION
- C.I.P. CALLING IN POINT
- C.P. CHECK POINT
- ANCHORAGE AREA

REFER TO CANADIAN HYDROGRAPHIC SERVICE CHARTS NO. 1340, 1409, 1410, 1411, 1412, 1413, 1414, 1415, 1416, 1417, 1418, 1419, 1420, 1421.

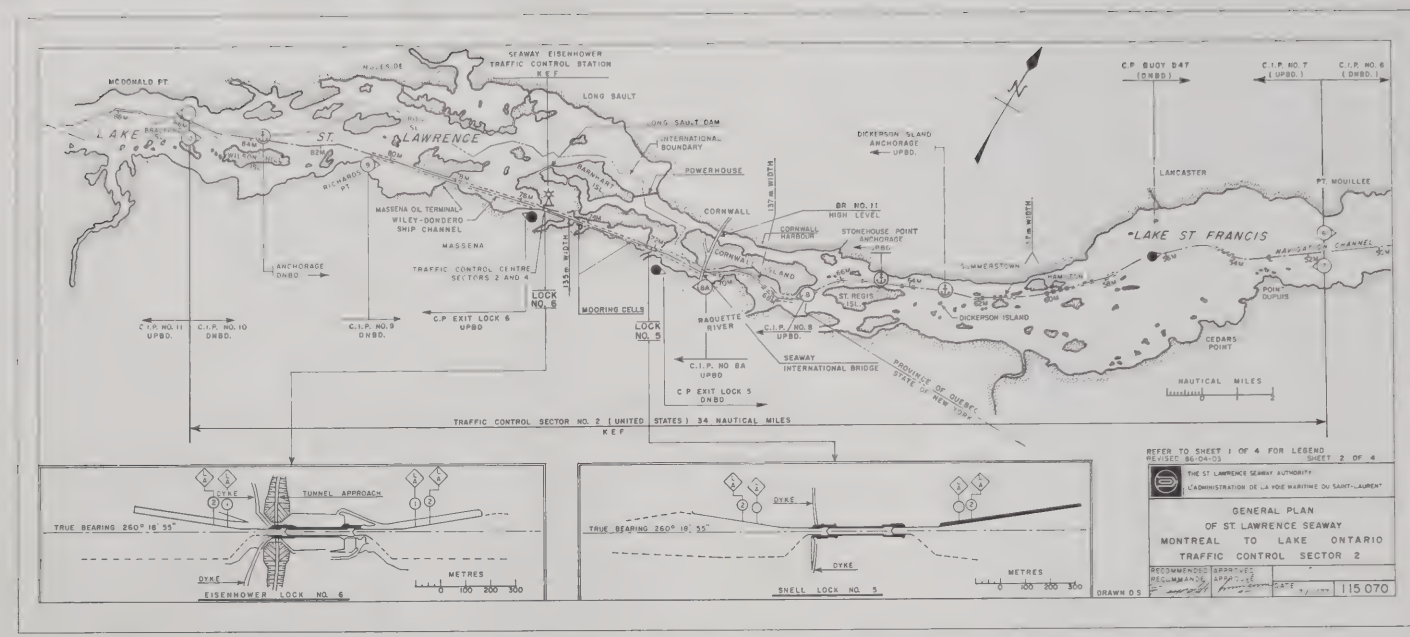
REVISED 86-04-03 SHEET OF 4

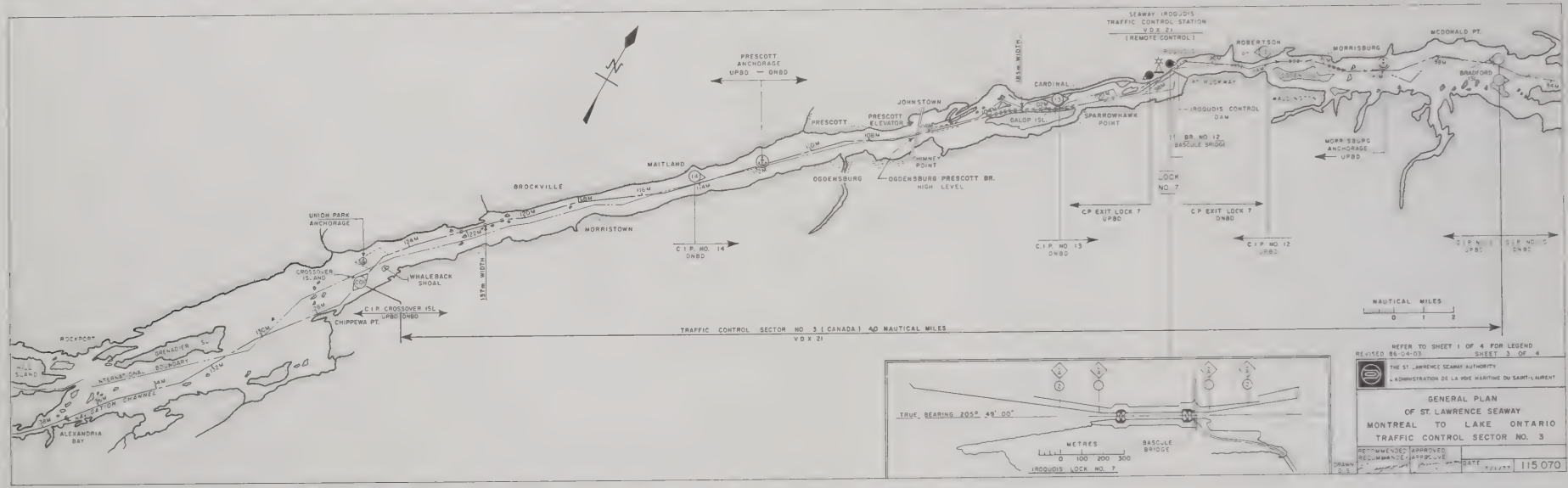
THE ST. LAWRENCE SEAWAY AUTHORITY
L'ADMINISTRATION DE LA VOIE MARITIME DU SAINT-LAURENT

GENERAL PLAN OF ST. LAWRENCE SEAWAY MONTREAL TO LAKE ONTARIO TRAFFIC CONTROL SECTOR NO. 1

RECOMMENDED/APPROVED
PERFORMANCE APPROVED

DRAWN - D.S. DATE 17/1/77 115 070


SEAWAY EISENHOWER
TRAFFIC CONTROL STATION
KEF
MCDONALD PT
LONG SAULT
LONG SAULT DAM
INTERNATIONAL BOUNDARY
LAKE ST LAWRENCE
POWERHOUSE
DICKERSON ISLAND ANCHORAGE
UPBD.
C.P BUOY 847
(DNBD.)
C.I.P. NO. 7
(UPBD.)
C.I.P. NO. 6
(DNBD.)
LAMCASTER
PT. MOUILLEE
MASSENA OIL TERMINAL
WILEY-DONDERO
SHIP CHANNEL
MASSENA
CORNWALL
BR NO. 11
HIGH LEVEL
CORNWALL HARBOUR
STONEHOUSE POINT
ANCHORAGE
UPBD.
LAKE ST FRANCIS
SUMMERSTOWN
ANCHORAGE
DNBD
TRAFFIC CONTROL CENTRE
SECTORS 2 AND 4
LOCK NO. 6
MOORING CELLS
LOCK NO. 5
ST. REGIS
ISL
DICKERSON ISLAND
C.I.P. NO. 11
UPBD.
C.I.P. NO. 10
DNBD.
C.I.P. NO. 9
DNBD.
C.P EXIT LOCK 6
UPBD
RAQUETTE
RIVER
C.I.P. NO. 8
UPBD.
CEDARS
POINT
C.I.P. NO 8A
UPBD
SEAWAY
INTERNATIONAL BRIDGE
C P EXIT LOCK 5
DNBD
PROVINCE OF QUEBEC
STATE OF NEW YORK
NAUTICAL MILES
TRAFFIC CONTROL SECTOR NO. 2 (UNITED STATES) 34 NAUTICAL MILES
KEF
DYKE
TUNNEL APPROACH
TRUE BEARING 260° 18' 55"
METRES
EISENHOWER LOCK NO. 6
SNELL LOCK NO. 5
REFER TO SHEET 1 OF 4 FOR LEGEND
REVISED 86-04-03
SHEET 2 OF 4
THE ST LAWRENCE SEAWAY AUTHORITY
L'ADMINISTRATION DE LA VOIE MARITIME DU SAINT-LAURENT
GENERAL PLAN
OF ST LAWRENCE SEAWAY
MONTREAL TO LAKE ONTARIO
TRAFFIC CONTROL SECTOR 2
RECOMMENDED
APPROVED
DRAWN D S
115 070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TRAFFIC CONTROL STATION
VDX 21
(REMOTE CONTROL)
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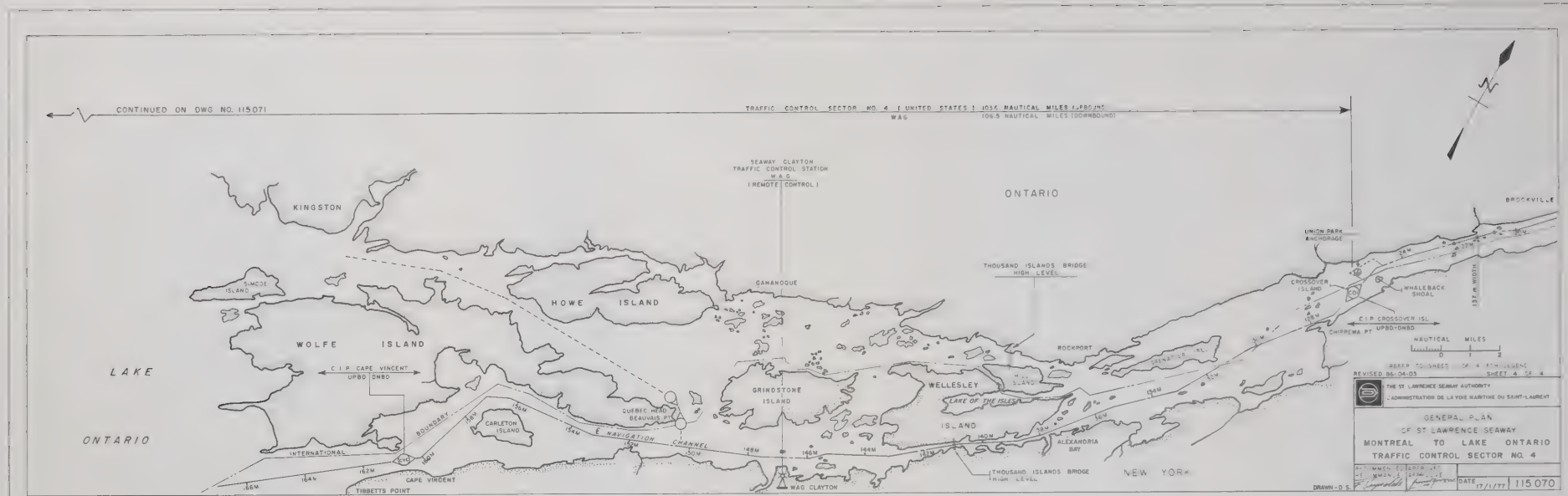
ANCHORAGE
UPBD — DNBD
CARDINAL
ROBERTSON
MORRISBURG
MCDONALD PT.
BRADFORD
JOHNSTOWN
PRESCOTT
PRESCOTT ELEVATOR
GALOP ISL.
SPARROWHAWK POINT
IROQUOIS CONTROL DAM
MAITLAND
CHIMNEY POINT
OGDENSBURG
OGDENSBURG PRESCOTT BR.
HIGH LEVEL
BROCKVILLE
MORRISTOWN
UNION PARK
ANCHORAGE
CROSSOVER ISLAND
WHALEBACK SHOAL
CHIPPEWA PT.
ROCKPORT
GRENADIER ISL.
MILL ISLAND
ALEXANDRIA BAY
INTERNATIONAL BOUNDARY
NAVIGATION CHANNEL
183m WIDTH
137m WIDTH
C.I.P. NO. 14 DNBD
C.I.P. CROSSOVER ISL UPBD DNBD
C.I.P. NO. 13 DNBD
C.I.P. NO. 12 UPBD
C.I.P. NO. 11 UPBD
C.I.P. NO. 10 DNBD
CP EXIT LOCK 7 UPBD
CP EXIT LOCK 7 DNBD
LOCK NO. 7
MORRISBURG ANCHORAGE UPBD
TRAFFIC CONTROL SECTOR NO 3 (CANADA) 40 NAUTICAL MILES
VDX 21
NAUTICAL MILES
0 1 2
TRUE BEARING 205° 49' 00"
METRES
0 100 200 300
BASCULE BRIDGE
IROQUOIS LOCK NO. 7
REFER TO SHEET 1 OF 4 FOR LEGEND
REVISED 86-04-03
SHEET 3 OF 4
THE ST. LAWRENCE SEAWAY AUTHORITY
L'ADMINISTRATION DE LA VOIE MARITIME DU SAINT-LAURENT
GENERAL PLAN
OF ST. LAWRENCE SEAWAY
MONTREAL TO LAKE ONTARIO
TRAFFIC CONTROL SECTOR NO. 3
RECOMMENDED
APPROVED
DRAWN
DATE
115 070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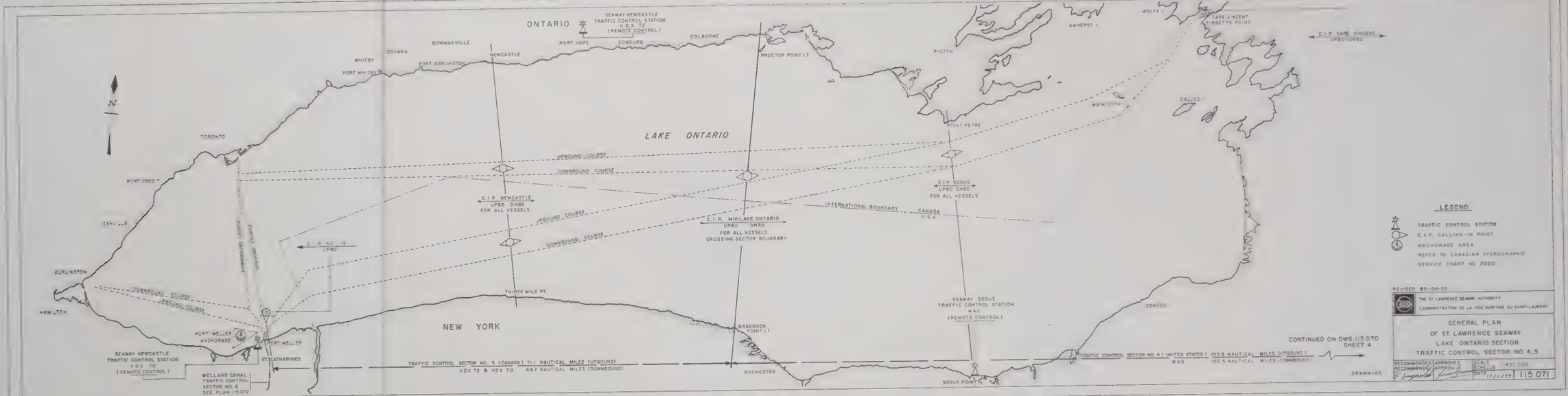
TRAFFIC CONTROL SECTOR NO. 4 (UNITED STATES) 103.6 NAUTICAL MILES (UPBOUND)
106.5 NAUTICAL MILES (DOWNBOUND)
WAG
SEAWAY CLAYTON TRAFFIC CONTROL STATION M.A.S. (REMOTE CONTROL)
ONTARIO
KINGSTON
SIMCOE ISLAND
WOLFE ISLAND
HOWE ISLAND
GANANOQUE
LAKE ONTARIO
C.I.P. CAPE VINCENT UPBD DNBD
INTERNATIONAL BOUNDARY
CARLETON ISLAND
QUEBEC HEAD BEAUVAIS PT
E. NAVIGATION CHANNEL
GRINDSTONE ISLAND
WELLESLEY ISLAND
LAKE OF THE ISLES
ROCKPORT
THOUSAND ISLANDS BRIDGE HIGH LEVEL
THOUSAND ISLANDS BRIDGE MAIN LEVEL
ALEXANDRIA BAY
NEW YORK
TIBBETTS POINT
CAPE VINCENT
WAG CLAYTON
UNION PARK ANCHORAGE
CROSSOVER ISLAND
WHALEBACK SHOAL
C.I.P. CROSSOVER ISL UPBD-DNBD
CHIPPEWA PT
BROCKVILLE
137 m WIDTH
NAUTICAL MILES
0 1 2
REFER TO SHEET 1 OF 4 FOR KEY DIAGRAM
REVISED 86-04-03
SHEET 4 OF 4
THE ST. LAWRENCE SEAWAY AUTHORITY
L'ADMINISTRATION DE LA VOIE MARITIME DU SAINT-LAURENT
GENERAL PLAN
OF ST. LAWRENCE SEAWAY
MONTREAL TO LAKE ONTARIO
TRAFFIC CONTROL SECTOR NO. 4
DRAWN - D.S.
DATE 17/1/77
115070


ONTARIO
SEAWAY NEWCASTLE TRAFFIC CONTROL STATION VDX 72 (REMOTE CONTROL)
OSHAWA
BOWMANVILLE
WHITBY
PORT WHITBY
PORT DARLINGTON
NEWCASTLE
PORT HOPE
COBOURG
COLBORNE
PROCTOR POINT LT
PICTON
AMHERST I.
WOLFE I.
CAPE VINCENT
TIBBETTS POINT
C.I.P. CAPE VINCENT UPBD-DNBD
SALOON I.
MAIN DUCK I.
POINT PETRE
LAKE ONTARIO
TORONTO
PORT CREDIT
OAKVILLE
BURLINGTON
HAMILTON
UPBOUND COURSE
DOWNBOUND COURSE
C.I.P. NEWCASTLE UPBD DNBD FOR ALL VESSELS
C.I.P. MID-LAKE ONTARIO UPBD DNBD FOR ALL VESSELS CROSSING SECTOR BOUNDARY
C.I.P. SODUS UPBD DNBD FOR ALL VESSELS
INTERNATIONAL BOUNDARY
CANADA
U.S.A.
C.I.P. NO. 15 UPBD
WELLAND CANAL TRAFFIC CONTROL SECTOR NO. 6 SEE PLAN 115072
PORT WELLER ANCHORAGE
PORT WELLER
ST. CATHARINES
SEAWAY NEWCASTLE TRAFFIC CONTROL STATION VDX 70 (REMOTE CONTROL)
THIRTY MILE PT.
NEW YORK
BRADDOCK POINT LT
ROCHESTER
SODUS POINT
SEAWAY SODUS TRAFFIC CONTROL STATION WAG (REMOTE CONTROL)
OSWEGO
TRAFFIC CONTROL SECTOR NO. 5 (CANADA) 71.1 NAUTICAL MILES (UPBOUND)
VDX 72 & VDX 70 68.7 NAUTICAL MILES (DOWNBOUND)
TRAFFIC CONTROL SECTOR NO. 4 (UNITED STATES) 103.6 NAUTICAL MILES (UPBOUND)
WAG 106.5 NAUTICAL MILES (DOWNBOUND)
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LEGEND
TRAFFIC CONTROL STATION
C.I.P. CALLING-IN POINT
ANCHORAGE AREA
REFER TO CANADIAN HYDROGRAPHIC SERVICE CHART NO. 2000
REVISED 86-04-03
THE ST. LAWRENCE SEAWAY AUTHORITY
L'ADMINISTRATION DE LA VOIE MARITIME DU SAINT-LAURENT
GENERAL PLAN
OF ST. LAWRENCE SEAWAY
LAKE ONTARIO SECTION
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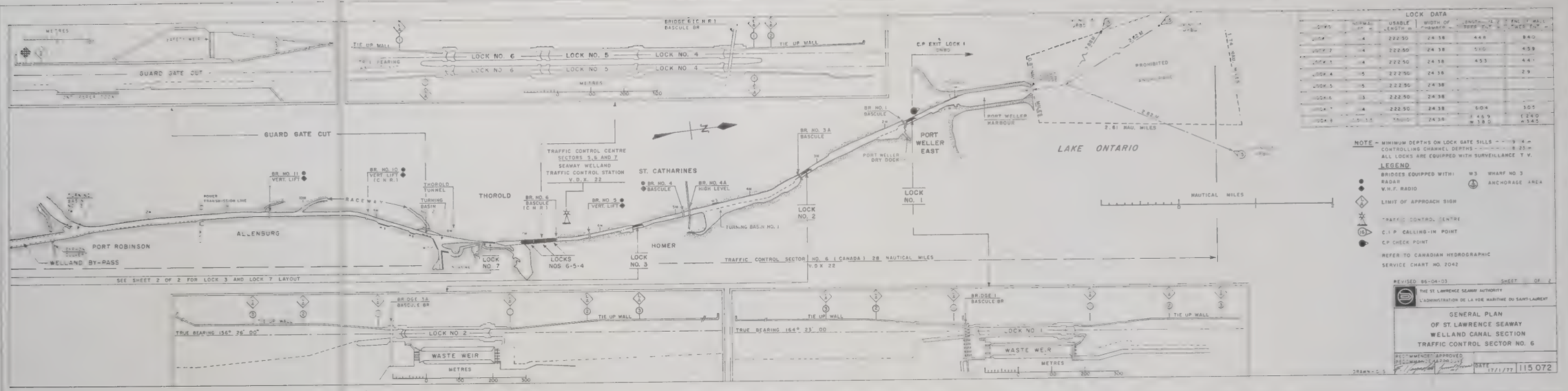
RECOMMENDED
APPROVED
SCALE 1:400 000
DATE 17/1/77
115 071
DRAWN-DS



LOCK DATA

LOCK	NORMAL LIFT m	USABLE LENGTH m	WIDTH OF CHAMBER m	DEPTH OVER SILLS m	DEPTH OVER MITRE SILLS m
LOCK 7	4	222.50	24.38	4.48	8.40
LOCK 6	4	222.50	24.38	5.10	4.59
LOCK 5	4	222.50	24.38	4.53	4.41
LOCK 4	5	222.50	24.38		2.9
LOCK 3	5	222.50	24.38		
LOCK 2	3	222.50	24.38		
LOCK 1	4	222.50	24.38	6.04	3.05
LOCK 8	5.15	134.00	24.38	E 4.69 W 3.80	E 2.40 W 1.45

NOTE – MINIMUM DEPTHS ON LOCK GATE SILLS – – – 9.14 m
CONTROLLING CHANNEL DEPTHS – – – – – – – – 8.23 m
ALL LOCKS ARE EQUIPPED WITH SURVEILLANCE T.V.

LEGEND

BRIDGES EQUIPPED WITH: W3 WHARF NO. 3
RADAR ⚓ ANCHORAGE AREA
V.H.F. RADIO
LIMIT OF APPROACH SIGN
TRAFFIC CONTROL CENTRE
C.I.P. CALLING-IN POINT
C.P. CHECK POINT

REFER TO CANADIAN HYDROGRAPHIC SERVICE CHART NO. 2042

REVISED 86-04-03 SHEET 04 OF 7

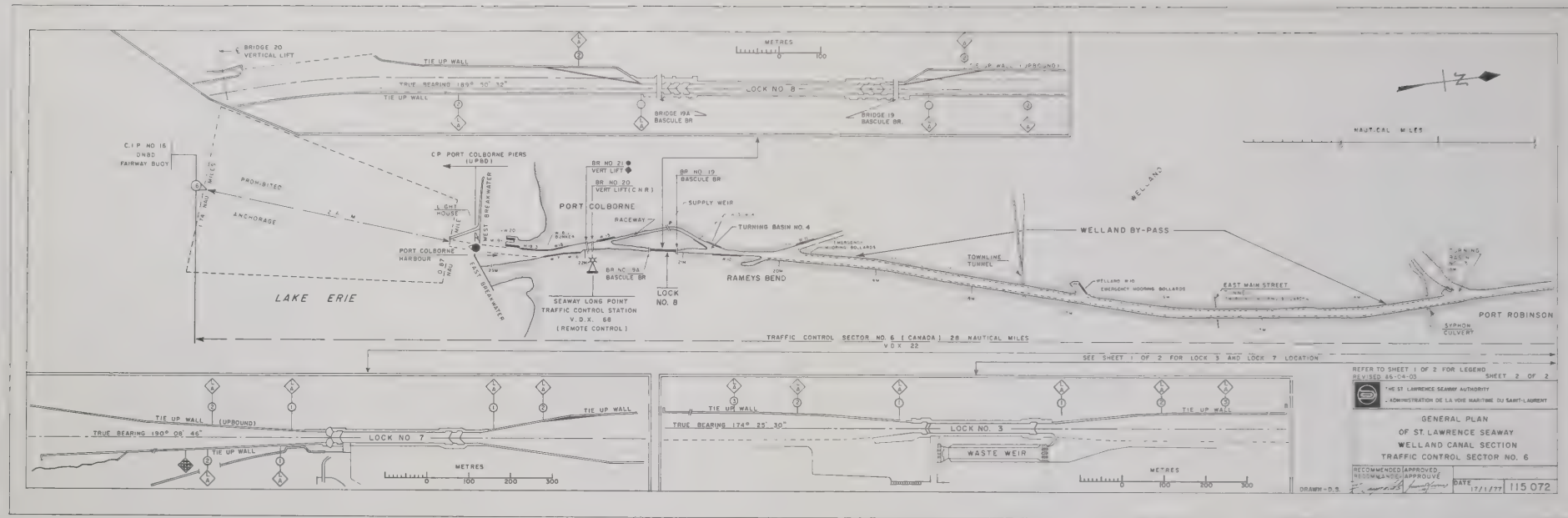
THE ST. LAWRENCE SEAWAY AUTHORITY
L'ADMINISTRATION DE LA VOIE MARITIME DU SAINT-LAURENT

GENERAL PLAN OF ST. LAWRENCE SEAWAY WELLAND CANAL SECTION TRAFFIC CONTROL SECTOR NO. 6

RECOMMENCE APPROVED
RECOMMANDÉ APPROUVÉ

DATE 17/1/77

DRAWING NO. 115 072



REFER TO SHEET 1 OF 2 FOR LEGEND
REVISED 86-04-03
SHEET 2 OF 2

THE ST LAWRENCE SEAWAY AUTHORITY
LA VOIE MARITIME DU SAINT-LAURENT

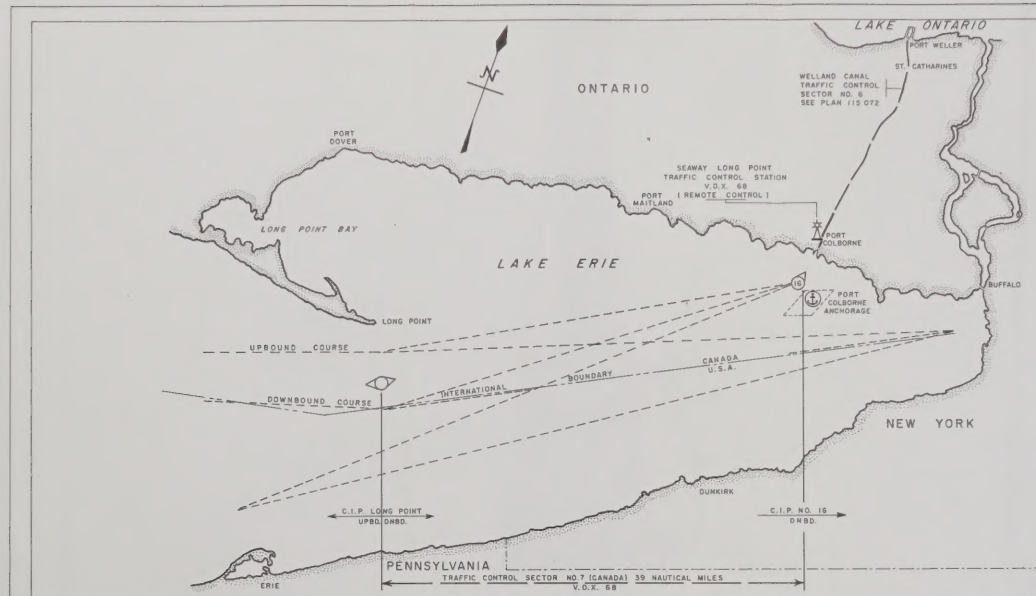
GENERAL PLAN
OF ST. LAWRENCE SEAWAY
WELLAND CANAL SECTION
TRAFFIC CONTROL SECTOR NO. 6

DRAWN - D.S.

RECOMMENDED / APPROVED
RECOMMANDÉ / APPROUVÉ

DATE 17/1/77

115 072



LEGEND

- TRAFFIC CONTROL STATION
- C.I.P. CALLING-IN POINT
- ANCHORAGE AREA
- REFER TO CANADIAN HYDROGRAPHIC SERVICE CHART NO. 2100

REVISED 86-04-03

THE ST. LAWRENCE SEAWAY AUTHORITY
L'ADMINISTRATION DE LA VOIE MARITIME DU SAINT-LAURENT

GENERAL PLAN
OF ST. LAWRENCE SEAWAY
LAKE ERIE SECTION
TRAFFIC CONTROL SECTOR NO. 7

RECOMMENDED / RECOMMANDÉ	APPROVED / APPROUVÉ	SCALE / ÉCHELLE 1: 400,000
		DATE 77/1/27

DRAWN DS

115 073